The First Line of Defense *Against* High Operating Costs

ELECTRO-MOTIVE CORPORATION

SUBSIDIARY OF GENERAL MOTORS LA GRANGE, ILLINOIS, U. S. A.

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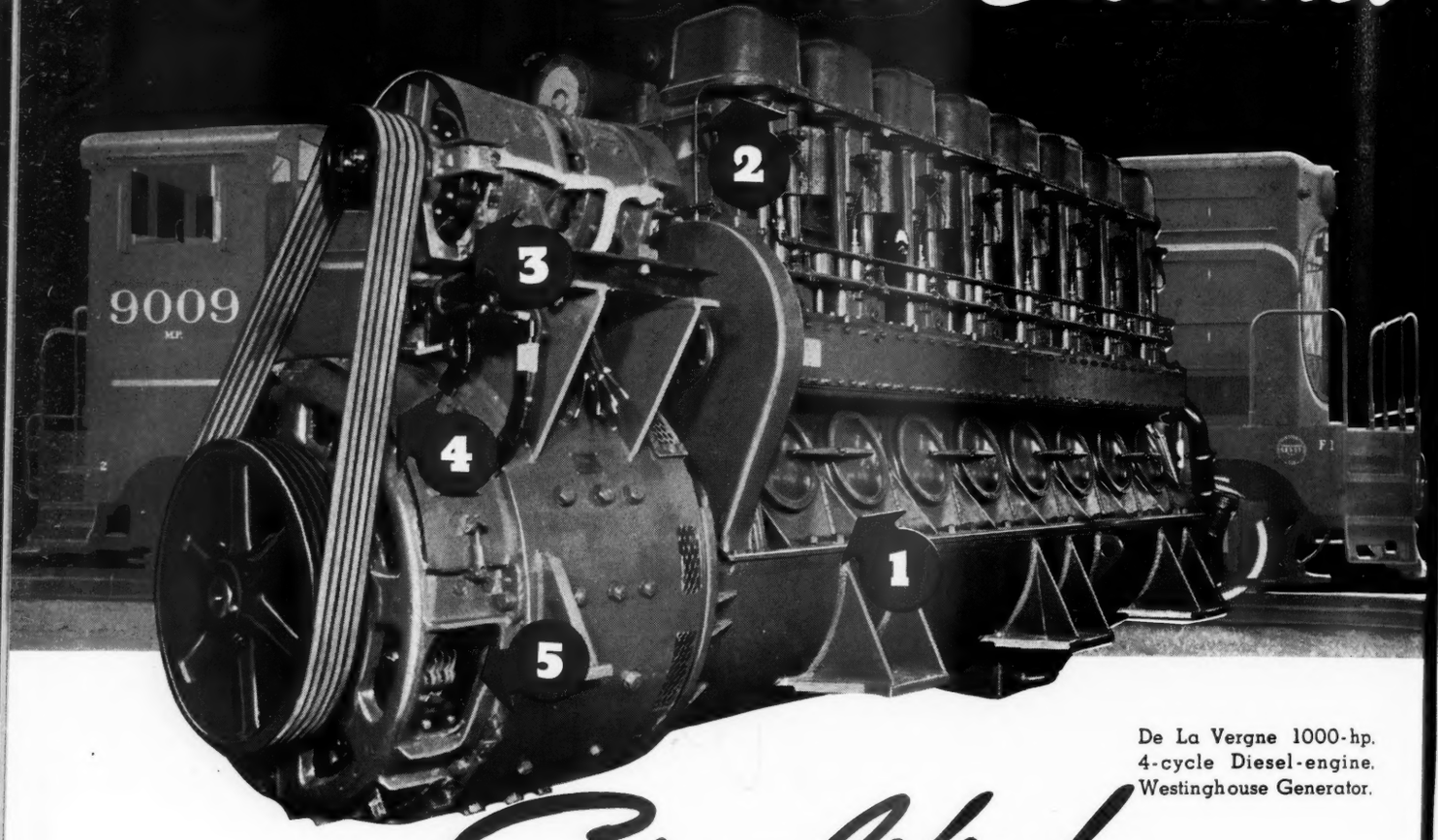


De La Vergne 1000-hp. 4-cycle Diesel-engine. Westinghouse Generator.

Simplified ENGINE-GENERATOR MAINTENANCE

The De La Vergne 1000-hp. and 660-hp. engines, built by Baldwin for their Diesel-electric switching locomotives, are designed to give direct and safe access for inspection and maintenance.

FIVE IMPORTANT POINTS:

1. Crank case covers easily removed, exposing big end connecting rod and main bearings for inspection.
2. Cylinder head covers accessible for ready removal, to inspect rocker arms and push rods. Injector nozzles are outside.
3. Auxiliary generator and exciter brushes available "shoulder high" for quick inspections.
4. Simple belt drive maintained or replacements made by loosening holding nuts in slotted base of the auxiliary generator and exciter.
5. Main generator brushes and brush rigging exposed on top by loosening spring latch and removing cover. A manhole through the main locomotive frame gives equivalent access from below.

BLW

THE BALDWIN LOCOMOTIVE WORKS

Philadelphia

RAILWAY AGE

Government "Investment" Versus Railroads and Their Employees

The New Deal program of so-called "investment" by the government (i. e., for bridges, dams, highways, etc.) is not receiving the critical attention it deserves as a destroyer of activity and jobs in private enterprise. Right now for campaign reasons doubtless, the New Deal economists—such as Adolph Berle, Leon Henderssen, Carrington Gill, et al.—are keeping pretty quiet about this particular scheme for driving private enterprise to the wall. But the plan has not been junked. It is merely "on ice," waiting until President Roosevelt gets a third term "mandate" to complete his program of fastening state socialism on the country. If any one questions how very alive this scheme is, let him read Stuart Chase's recent book, "Idle Money Idle Men." Chase is a New Deal press agent who is so good he doesn't have to palm off his propaganda on publishers, but sells it to them for good money. From the standpoint of the railroads and their employees this program of alleged "investment" is the most directly destructive of any of the many New Deal methods of harrying private enterprise and depriving it of its job-making power. The government has, of course, been spending money on every conceivable scheme allegedly to "prime the pump." This "investment" program counts on making such expenditures more extensive and a permanent policy.

Critics Hit the Obvious—Overlook the Devious

But critics of the New Deal for the most part lay low on this "investment" program (for reasons which will become evident further on in this editorial). Most of their anathema falls on the Administration's policies of regulating and taxing business. The critics allege that onerous corporate income taxes (and constant fear of sudden new burdens) discourage business from embarking upon new ventures. The critics also contend that the government regulation of security markets is so sweeping that it punishes not just crooked or dangerous flotations, but honest issues as well—an obstruction which has further put the brakes on new industrial plant and more jobs. These critics further assert that the supervision of business by the Federal Trade Commission, the National Labor Relations Board and other regulatory agencies has been so prejudicial and so harsh that business managers are unable to plan ahead with any optimism for the future. All of these policies together, the critics claim, combine to make both the business manager who normally seeks money to expand his business, and the investor who supplies the money, more timid than they have ever been before. Once bitten, twice shy.

The truth of these criticisms is as obvious as Hitler's bombing of London. No one except economic illiterates and economic perverts would even attempt to refute them. But the attacks on business mentioned in the preceding paragraph are merely the obvious part of the New Deal's warfare on private enterprise. The government "investment" program has the same purpose and is much more subtle. As a destroyer of private enterprise and private employment, it is more certain and harder to combat than the whole regulatory bombardment combined. It is more certainly lethal because, while business can live after a fashion under harsh regulation and taxation which affects all competitors alike, it cannot live as a taxpayer against competition which is fed by taxes instead of yielding them. The government "investment" device is more dangerous than harsh regulation because it **divides the opposition to socialism—scarcely any government "investment" can be thought of, however unsound in principle, which does not have a large number of business men rooting for it because they see in it an opportunity for immediate profit.** "After me the deluge," as Louis XV said.

How Government "Investment" Puts Railroads in the Red

No railroad man needs to be told about what this so-called government "investment" does to railroad traffic and jobs. The following tabulation shows what the railroads are up against when they try to compete with truck transportation—the black-face type showing

what government "investment" in highways does for the trucks, hence making it difficult for the railways to compete—and destroying traffic and jobs on the railroads.

How Railroad Transportation Is Paid For	How Truck Transportation Is Paid For
(1) Charges from Shippers Must Cover Operating Costs of Vehicles and Terminals	(1) Charges from Shippers Must Cover Operating Costs of Vehicles and Terminals
(2) Charges from Shippers Must Cover Cost of Signaling and Traffic Control	(2) **Taxpayers Pay Costs of Signaling and Directing Traffic**
(3) Charges from Shippers Must Maintain and Earn a Return on an Investment of 26 Billion Dollars	(3) Charges Upon Shippers Reflect Only a Small Fraction of Maintenance and Capital Cost of 25½-Billion-Dollar Highway System — **General Taxpayers and Non-Commercial Highway Traffic Foot the Bulk of the Bill**
(4) Charges from Shippers Must Pay Ad Valorem Taxes on a Property Investment of 26 Billion Dollars	(4) **The 25½-Billion-Dollar Property Investment in Highways Is Tax-Exempt.**

Similar tabulations could also be drawn up for waterway and airway transportation. Government "investment" need not thus compete unfairly, of course. The public authorities **could** set up in a separate account that proportion of highway investment properly chargeable to commercial vehicles and by levies on such vehicles require them not only to pay interest charges, but ad valorem taxes, maintenance and traffic control costs as well, on their share of the highway system. Under such treatment there would be nothing subversive to private enterprise in government "investment" in highways.

But the fact is that the government has never yet set such safeguards around its so-called "investments," when they compete with private enterprise and private employment. It always sets up a heads-I-win-tails-you-lose game against private enterprise. It is just such a lopsided game that the federal government tried playing on Wendell Willkie and his company's Tennessee electric properties; and Mr. Willkie is now a candidate for the presidency because of the brave and intelligent fight he made to protect his investors and his employees against such unjustice.

Other Business Also Hit by "Investment" Policy

It is absolutely necessary, if private enterprise in this country is to be saved, that we have a man in the White House who understands this government *versus* private investment issue. No other man in America meets this prescription as well as Wendell Willkie. As evidence that this is not just another editorial complaining about the unjust competition which the railroads and their employees have to face, look at the following dispatch which recently appeared in the New York Times from Camden, N. J.:

"With a view to assessing the Delaware River bridge property within the Camden City limits for municipal taxation next year, Maurice H. Clyman, president of the Camden Board of Assessors, has requested bridge commission officials to supply an itemized statement showing the value put on its holdings, a report on revenues and disbursements since the bridge was opened in 1926 and a balance sheet for 1939.

"'Camden has lost millions of dollars in ratables since the coming of the bridge because of the properties razed to make way for it,' Mr. Clyman declared.

"'The bridge is one of the most lucrative businesses in this section and is the most heavily traveled bridge or tunnel in the country. I can see no moral reason why it should not pay a fair return out of its profits to the City of Camden, if for no other reason than to help reimburse the city for its losses traceable to the bridge.'

"Mayor George E. Brunner agreed with Mr. Clyman that the city had grounds to tax the bridge property but officials of the Delaware River Bridge Joint Commission protested strongly.

"T. Harry Rowland, counsel for the New Jersey members of the commission, asserted that the bridge and all properties of the commission were State property and not subject to taxation by a municipality. If Camden could tax the bridge, he added, 'it can tax the State House at Trenton.'

"Mr. Clyman estimated, pending receipt of definite figures, that the bridge assessment would be $10,000,000 or more and that it should yield $444,000 a year in taxes on the basis of the city's present rate of $4.44 for every $100 of assessed valuation."

Obviously, the Camden assessor is right—the Philadelphia-Camden toll bridge is just as much a business enterprise as Campbell's Soup Factory, which is located in that city. If the bridge does not yield taxes—then the taxes on all Camden private property will have to be just that much higher than would otherwise be necessary. The hard-pressed Pennsylvania-Reading Seashore Lines have to pay taxes in Camden. Is the bridge less of a transportation facility than this railway?

The Tax Base Is Being Narrowed

When the government didn't own any property to speak of, this question of tax exemption for all kinds of government property was unimportant, from a practical standpoint. But the ratio of total property owned by the government (municipal and federal as well as state) is growing all the time—and as the ratio of government investment grows, private property is soaked twice: Once to provide the taxes for the government to "invest" and, second, by having this "investment" escape the tax rolls. This much of the government "investment" program adversely affects all business and all owners of private property. But there is another class of private enterprises which are harmed even further—those with which government "investment" competes. So far the principal victims in this doubly victimized category have been the railroads and their employees and the utilities and their employees—but as the program expands, no business or its employees have any guaranty of exemption.

The "investment" scheme, as outlined by Stuart

Chase, involves direct federal appropriations of several billion dollars annually and **permanently** for the customary projects on which the P. W. A. has been putting out "pump priming" money, and the establishment of a federal "bank" which would lend money for little or **no interest** to states and municipalities, designed to tempt them into adding further to the ratio of tax-exempt property and to extending their "plant" much of which, of course, would quite likely compete with tax-paying private enterprise.

Tempting Business to Play the Cannibal

Mr. Chase cleverly baits his trap to divide the opposition. Most of these government projects, he says, "will be built by private contractors." He doesn't openly propose state socialism. He merely proposes to give the government the funds and additional favors over private business to enable government to widen its invasion of the economy—so that state socialism will come because private business can no longer compete and can no longer pay its taxes. Greedy and short-sighted business men—not unkempt Reds—are expected to supply the political support necessary to encompass their own undoing. And failing the national leadership of a really big man who knows what is going on, as Wendell Willkie does from his own experience, who can have confidence that many a run-of-mine business man will not walk right into this trap? Many of them have been doing it for years—and even yet can't feel the noose around their own necks.

Very clever and, so far, very effective—vastly more so than the undisguised frontal attack on business of the National Labor Relations Board and other New Deal administrative agencies. Even the dumber sort of business men can feel those missiles when they hit. Hitler too fights not only with arms, but also with schemes calculated to deceive his intended victims and to cause them to suspect and disagree and quarrel with each other.

Does Changing the Court Change the Law?

It has long been whispered among I. C. C. practitioners that the fate of a case before the Interstate Commerce Commission may depend upon the division which hears it. It has been alleged that shrewd practitioners may have even planned their pleadings so a certain question would be referred to a particular division. There has also been a rumor to the effect that the division originally created to administer the Motor Carrier Act is inclined to consider with some tenderness the claim of vested rights being advanced by certain motor carrier interests. Who can say that there is nothing in the decisions of the Commission to support these murmurs?

Some there are who see an anomaly in the Commission's decisions in the California-Arizona Petroleum and in the Trunk-Line Territory Motor Carrier Minimum rate cases.

In the Petroleum case the Commission refused to prescribe minimum rates by truck, although there was reliable and uncontroverted cost evidence that the present rates were below reasonable truck costs, but above reasonable railroad costs. Thus the Commission refused to exercise its minimum rate power where the destructive practices were being employed **against the railroads.**

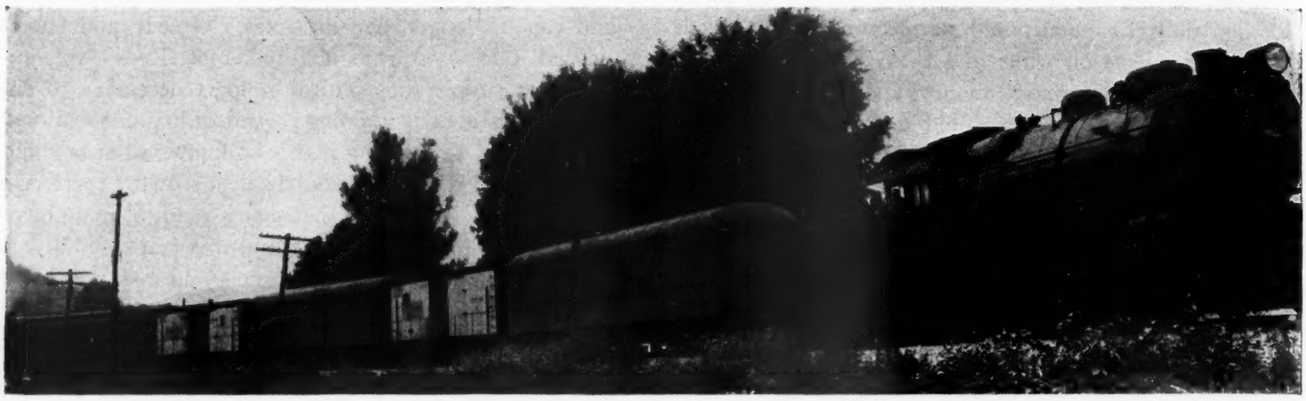
In the Trunk-Line Case, Division 5 was considering only the petition of a powerful group of motor carriers for a minimum rate order. No cost evidence was introduced in support. No evidence was introduced to show that the proposed minimum rates reflected the inherent advantages of motor transportation. No consideration was given to the innumerable operators who provide an inferior service, but satisfactory to their patrons, at a fair profit above their costs. By this decision the protecting arm of the government appears to deprive this type of operator of his constitutional rights and grants the favored few a license to pick-and-choose and to avoid handling undesirable traffic, notwithstanding their holding themselves out as common carriers. These rates appear to be arbitrarily pegged, and seem to contain indefensible contradictions.

Division 5 based its order on an alleged emergency, notwithstanding that the principal petitioners in the case are now before the Commission in another proceeding seeking authority to sell their property at two and one half times its depreciated book investment and have justified the request by current earnings—to say nothing of their uncontroverted evidence that the consolidation will reduce operating expenses 10 per cent, which they boldly assert they also intend to pocket. These petitioners also now represent that they are in need of additional capital to purchase additional equipment to handle the greatly increased business they contemplate and that investors are willing to purchase the property at a valuation far above the actual investment and to provide the additional capital for its expansion. Does this give evidence of the emergency that is pictured in the minimum rate case?

What chance would the railroads have in getting a rate increase out of the I. C. C. if any considerable number of them were changing hands at a figure more than double their property investment?

The Commission has recognized the need for better administration of its rate making authority by its reorganization, but unfortunately the reorganization did not include the vitally important cases that were pending. **The order in the Trunk-Line case should be vacated and the record as made should be reconsidered by the entire Commission in the light of Chairman Eastman's dissent.**

The Commission will have to do a better job than this if it expects to retain public confidence.



Train Used for A. A. R. High-Speed Freight Car Truck Tests

Truck Requirements for High-Speed Freight Service

Extracts from report of A. A. R. tests set forth general lines on which development must proceed

LATE in July the Mechanical Division, Association of American Railroads, announced that the report on Tests of Trucks for High-Speed Freight Service was available for distribution. This report is a mimeographed book of nearly 300 pages which was reviewed in the August 10 issue of the *Railway Age*. The review presented a condensed summary of the major conclusions reached as a result of the tests. This article sets forth briefly the scope and conditions of the tests and states the major conclusions more completely.

In the latter part of 1938, at the request of the vice-president of the Operations and Maintenance Department of the Association of American Railways, the General Committee considered the investigation of trucks for high-speed freight service and at its meeting held on November 16, 1938, "It was decided that this subject should be referred to the Committee on Car Construction with instructions to co-operate with the Committee on Brakes and Brake Equipment, the Committee on Wheels, and W. I. Cantley, mechanical engineer, in an investigation of trucks for high-speed freight service, and, if necessary, make tests covering all phases of the problem, including brakes, wheels, etc."

In accordance with the foregoing, the Committee on Car Construction appointed a subcommittee consisting of W. A. Newman, chief mechanical engineer, Canadian Pacific; J. McMullen, superintendent car department, Erie; F. A. Isaacson, engineer car construction, A. T. & S. F.; J. T. Soderberg, general foreman, Pennsylvania, and T. M. Cannon, engineer car construction, C. M. St. P. & P. R. R. The purpose of the investigation was to aid in the study of the problems involved. The data secured would then be available for use in designing and building freight car trucks suitable for high speed.

The A. A. R. sub-committee met on January 11, 1939, to formulate plans for procedure. It was decided that the scope of the investigation would be: (1) To determine whether the conventional freight truck is safe to operate at high speeds—i. e. 80 m. p. h. or over and has satisfactory riding qualities at 80 m. p. h. or over; also (2) To determine riding qualities and performance of trucks designed specifically for the above high speed service.

At its first meeting the A. A. R. sub-committee decided that the method of procedure would be to conduct tests under actual service conditions by operating different trucks in a high speed train and measuring their performance. Aside from differences in design of trucks it was proposed specifically to investigate the effect of differences in track, differences in load, and differences in wheels.

On January 12, 1939, there was held a joint meeting of the A. A. R. sub-committee, representatives of the A. A. R. brake and wheel committees and representatives of the various truck manufacturers, at which time the different manufacturers were invited to furnish free of charge a car set of trucks which they had developed for high speed service or which they had in the process of development. The trucks were to be furnished for 5½-in. by 10-in. journals and have physical dimensions making them suitable for installation under the test cars. The trucks were to be furnished without wheels and axles, journal bearings and wedges, and were to be equipped with plain side bearings. They were to be assembled and tried out in service before being offered for test. Complete drawings were to be furnished, with the understanding that if in the opinion of the sub-committee the trucks were unsafe for high speed operation they would be rejected for test. The manufacturers were advised that only one design of truck could be entered by one manufacturer, and that the truck sides and bolsters were to meet the A. A. R. specifications for strength. Ten different truck manufacturers had representatives present at this meeting and they all indicated that they wished to co-operate to the fullest extent in this investigation.

In order to investigate the influence of differences in track the sub-committee realized that it would be advisable to select a test site that would have different kinds of track over which the test train could be operated. The test site finally selected included both main line passenger track which was probably in as good condition as any track in the country and also branch line track which was good sturdy track but which did not have the maintenance that the main line track had.

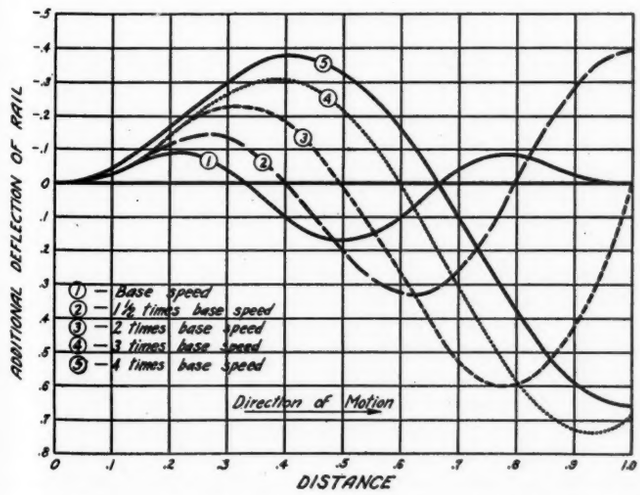
The question of loads was decided from consideration of the empty weight of the test cars and the capacity of the trucks tested. After all the instruments were installed in the cars it was found that the lowest rail weight that could be obtained was 58,000 lb. For the heaviest load the customary limit of 85 per cent of axle limit load for express service was adopted, which gave the highest rail weight as 145,000 lb.

The final test program decided upon was as follows: Each truck to be given one round trip with concentric wheels and loads of 58,000 lb., 83,000 lb., 113,000 lb., and 145,000 lb. rail weight. Each truck was then to be given one round trip with eccentric wheels ($\frac{3}{64}$ ia.) and the same loads.

The sub-committee reserved the right to discontinue tests on any truck if at any time it appeared to be unsafe for operation at these high speeds.

The 12 trucks tested and the sponsor of each were as follows: (1) A. A. R. Truck—the conventional design of spring plank truck, equipped with 1936 plain coil springs. These trucks were secured from the stock of the Pennsylvania. (2) A. S. F. truck—furnished by the American Steel Foundries, (3) Barber truck—furnished by the Standard Car Truck Company, (4) Buckeye truck—furnished by the Buckeye Steel Castings Company, (5) Full-Cushion truck—furnished by the Allied Railway Equipment Company, (6) National truck—furnished by the National Malleable & Steel Castings Company, (7) Ohio truck—furnished by the Ohio Steel Foundries, (8) PRR No. 1 truck—furnished by the Pennsylvania, (9) Railway truck—furnished by the Railway Truck Corporation, (10) Scullin truck—furnished by the Scullin Steel Company, (11) Simplex truck—furnished by the Bettendorf Company, (12) Symington truck—furnished by the Symington-Gould Corporation.

(Each one of these trucks was described in detail on the report with photographs, drawings, spring group characteristics and a list of parts with weights. Following the descriptive section there was a classification system for the various trucks, based mainly on the arrangement of the springs in the truck and considered helpful in evaluating the relative worth of the different designs. —EDITOR)



Curves Showing Dynamic Effect of Low Spots (Timoshenko-Lessells)

These tests were made on the Pennsylvania between Altoona, Pa., and Lock Haven. From Altoona to Tyrone, a distance of 14.2 miles, is main line track; from Tyrone to Lock Haven, a distance of 54 miles, is branch line track that is maintained for heavy freight service and branch line passenger trains. Headquarters for the tests were located at the Altoona Car Shops of the Pennsylvania, where the work of building and installing the trucks was performed. A day's test consisted of a trip from Altoona to Lock Haven and return. Practically all of this track is laid with new 130 and 131-lb. rail in 39-ft. lengths, there being only a very short stretch in each track laid with cropped rail. It is rock ballasted all the way and is maintained in first class condition. Battered joints are periodically built up by welding and the surface of the rail is ground at intervals to remove any corrugation that may have developed. The curves are super-elevated, and regular passenger trains are given a 70 m. p. h. speed limit on this track with a restriction to 15 m. p. h. from Grazier eastward to beyond Tyrone. The test train was given a speed limit of 85 m. p. h. on the stretch from Altoona to Grazier.

The Bald Eagle branch, extending from Tyrone to Lock Haven, is a single track line with passing sidings operated under controlled manual block system. Mileposts are numbered from Tyrone. The rail is all relaid 130-lb. section, some being 39-ft. lengths and some being cropped rail. It is rock ballasted throughout and is good track, but it does not receive the maintenance that the main line track receives. The curves are not superelevated. Regular passenger trains are given a speed limit of 60 m. p. h. on this branch. Before these tests were started the track was given special attention so as to make it safe for the test train to attain a speed of 85 m. p. h. over certain stretches.

The goal for operation of the test train was to duplicate speed as closely as possible on successive runs and to do as much running as possible at speeds above 60 m. p. h. The problems encountered in the operation of freight cars at speeds up to 60 m. p. h. are pretty generally understood as a result of tests conducted by the Association of American Railroads in 1933, and methods of solving these problems are known. In order to do any substantial amount of running at high speeds, it was necessary to attain those high speeds as quickly as possible after starting. The desired speed schedule over each stretch of track was made as high as curves and grades would permit, the theory being that if a truck performed satisfactorily at the highest speeds it would perform satisfactorily at lower speeds. It was known that some freight trucks exhibit critical speeds below 60 m. p. h. and it was suspected that critical speeds above 60 m. p. h. might be found. One of the jobs of the observers riding the test cars was to watch for the exhibition of these critical speeds.

The Test Train

One illustration shows the test train at one of its stops on an eastbound run. The consist is locomotive, baggage car, test car No. 1 which carried the base truck used as a measuring stick, baggage car, test car No. 2 which carried the truck being tested, and passenger coach; a total of a locomotive and five cars.

The baggage cars and coach were carried to place the test cars between cars which would remain unchanged throughout the progress of the test and therefore always subject them to the same influence of the coupled car.

They also served to bring the braking power of the train within requirements for passenger train operation, as the freight cars were low in braking power when heavily loaded. The coach also served as headquarters for the train crew. The front baggage car was used to charge the spare storage batteries used in operating the test instruments. The middle baggage car was fitted up as an office and work car. Facilities were provided for repairing and calibrating instruments, as well as performing the paper work in connection with the tests. The two test cars were from a lot of several hundred 50-ton cars originally built for the Delaware, Lackawanna and Western. Car No. 1 was built in March, 1928 and Car No. 2 was built in August, 1927. These cars have steel underframe, superstructure and ends, with wood siding. The interiors were fitted with lading bins to confine the lading and leave free floor space for instruments and observers. Both test cars were equipped with air signal lines, signal valves, emergency brake valves and passenger triple valves to make them acceptable for operation in passenger service. Sufficient lead was put in the corner lading bins of each car to bring the weight to 58,000 lb. which was then used as the lightest test weight. In running tests no attention was paid to the variation in weight of the different trucks installed on Car No. 2.

Instruments

Most of the performance of the different trucks was determined by measuring the shocks they delivered to the body of the car while in motion. These measurements were supplemented by the observations of men riding the cars to watch the action of the car and trucks while in motion, and who inspected the trucks at each stop. Car No. 1 was equipped with a Valve Pilot speedometer which indicated speed and also drew a speed chart of the run.

In order to determine if any springs went solid lead wires were applied at the points which would touch, wherever this was possible. Lead wire $\frac{1}{16}$-in. in diameter was used for this purpose. In some cases where it was impossible to use this wire the surfaces which would touch were painted with a rather heavy coat of quick drying paint. In other cases the trucks were fitted with push gages which would indicate the maximum motion of the parts during the preceding stretch of running. These devices were examined at each stop for indications or records of springs going solid.

The shocks delivered to the car body were measured by accelerometers attached to the car body. Three different designs of these instruments were used in order to secure as much data as possible. All three of these designs used the same principle of operation, in that each had a series of guided weights of uniform mass, each held against a stop by a spring, the pressure of which could be nicely graduated. Whenever a weight was subjected to a shock which was heavy enough to overcome the pressure of the spring holding it against the stop the weight would move away from the stop until the shock had passed, when it would return to its position against the stop. Some form of electrical indicating or recording means was provided to show the number of times each weight moved away from its stop during a run. By setting the pressure of the spring to a different value for each weight in the instrument the shocks occurring could be separated out into any desired range of values. This form of accelerometer is known as a "Contact Accelerometer." It is wholly free of errors caused by the weight spring getting into resonance with the shocks which occur because its indications are taken from the fact that the weight moves away from the stop and not from the distance it moves. Each weight can respond only to shocks which are heavy enough to overcome the pressure of its spring, and whenever such shocks are not present the weight is held in its neutral position against its stop.

Method of Conducting Tests

By nature, this was a competitive test. Any manufacturer who had a car set of trucks which he thought was satisfactory for high speed service was privileged to enter them, subject only to the opinion of the subcommittee as to the safety of the trucks and the requirements that the parts should meet the A. A. R. specifications for strength, and that the trucks should have been previously assembled and operated in service. It was, therefore, necessary to keep the conditions as nearly as possible constant throughout the test in order to guard against favoring one truck or penalizing another.

The use of a special train with clear block signals gave a good measure of control over the speed at which the train would operate, but there were variables in the weather and in the condition of the track from day to day caused by maintenance. It was also realized that small differences in speed from day to day might have an appreciable effect on the performance of a truck so it was decided that the only fair way to test would be to use one of the trucks as a base truck and test all the other trucks against it. One test car would be equipped with the base truck and the other car would be equipped with the rest of the trucks in turn, with the loading, wheels, instruments, etc., in the two cars as nearly alike as it was possible to make them. The PRR No. 1 truck was selected as the base truck because it had been tried out in high-speed service and also because it was not sponsored by a manufacturer of trucks. The A. A. R. truck was not selected as the base truck since it could not be expected to perform satisfactorily at speeds of 80 m. p. h. or over.

For loading the cars, lead pigs weighing about 35 lb. each were used. These had the advantage of being easily handled, although it took considerable time to handle enough of them to make the required change in load. They occupied small space for a given weight, thus not interfering with space required for instruments and observers. They gave a lower center of gravity than would be obtained with most commercial loads, which fact would probably make the car bodies more stable from the standpoint of rocking. The load was arranged the same way in both cars and an effort was made to keep the distribution as nearly uniform over the floor surface as possible.

Discussion of Results

It has been known for a number of years that freight cars equipped with plain coil springs have critical speeds —i. e., certain speeds at which they ride worse than they do at either lower or higher speeds. The fundamental cause of this action is resonance. Some disturbance is received by the car which is periodic, meaning received at regularly repeated intervals. If the period of these disturbances coincides with the period at which the springs will naturally oscillate the conditions for resonance exist and a large amplitude of oscillation of the springs will be built up and a rough ride will follow. No one of the disturbances by itself would have much effect in giving a rough ride, but a number of these small disturbances repeated at regular intervals can result in a very rough ride. Freight cars are subjected to two pronounced periodic effects as they move along the track. The first of these comes from the wheels, as every complete revolution of a wheel causes a repeti-

tion of any variation in effect it may have as it revolves. Eccentricity and flat spots are the worst offenders encountered. The second periodic effect comes from the rail joints because rail lengths are substantially uniform and the distance between joints is covered in equal intervals of time at uniform speed. The speed at which resonance will occur depends upon the time of natural vibration of the springs, and this is determined by the deflection of the springs under the load they are carrying. It will thus be seen that the critical speed or speeds for any car will depend upon the load it is carrying at the time.

It so happens that the critical speed of average freight cars so far as wheel action is concerned is somewhere around 25 m. p. h. It is rather narrow in range, sometimes being only about 2 m. p. h. wide. Its location and narrow range make it unimportant from an operating standpoint, but this statement does not mean that it can be ignored. The critical speed from rail joints is somewhat higher than from wheels, and is wider in its range. It may be as wide as 10 m. p. h., and seems to occur at speeds between 40 and 50 m. p. h. Because of its width its effect may be felt at speeds from 35 m. p. h. up to 55 m. p. h., depending upon the load in the car, and sometimes at even higher speeds. Stiff springs and light loads cause it to occur at higher speeds. The effect that this critical action produces on the car body depends upon the amplitude of spring oscillation which is built up. If this is large a heavy shock may be produced by each bounce. The amplitude of oscillation will build up until it is sufficient to absorb the energy delivered to the car body by the wheel or rail joint disturbance. Fortunately, it can be reduced by using springs which have a higher energy-absorbing rate than plain coil springs. There are a number of designs of friction springs or snubbers that have proved adaptable for this purpose. Every truck in this test, with the exception of the A. A. R. truck, had some device incorporated in the spring suspension to raise the energy absorption rate to take care of this critical action. There is doubtless some minimum energy absorption rate which will satisfactorily control this action, and experience points to a figure of about twenty per cent absorption. It should be mentioned that if the absorption means unduly increase the stiffness of the spring system more harm than good may be done.

It has been thought that there may be other critical speeds higher than those mentioned above, or in other words that freight cars would exhibit this action of critical speeds in the ranges above 60 m. p. h. There is no periodic action except that of wheels and rail joints to cause the occurrence of critical speeds, and the maximum effect from both of these causes occurs at speeds below 60 m. p. h. Shocks occur at speeds above 60 m. p. h., and they may be severe if the truck is not suited for these speeds, but they are caused by the dynamic effect of individual low spots in the track rather than by the cumulative effect of a number of small disturbances repeated at regular intervals. The cars were especially watched for critical speeds by the observers who rode them, and the charts from the Miner and Gray instruments were thoroughly examined for indications of them in assembling the information given in the report under the "Detail of Observations." The only indication of anything critical at speeds above 60 m. p. h. was the high frequency vibration of Car No. 1 and the fact that some trucks seemed to ride better at 80 m. p. h. than they did at lower speeds. While this high frequency vibration might be considered critical in the sense that it seemed to be associated with a definite speed, yet it was not the same kind of action that is generally thought of when referring to critical action of freight cars. The fact that some trucks seemed to ride better after passing speeds in the neighborhood of 75 m. p. h. may be said to demonstrate the existence of non-critical speeds, which implies the existence of critical speeds. This action, however, can be explained from an effect different from periodic disturbances.

It is well known that track differs in its smoothness, this being essentially a function of maintenance. It is not the smoothness that is apparent to the eye when looking at the track that is so important, as it is the different change in surface at the different points of the rail as a train passes over it. All track must yield some under the wheel loads, and the most perfect track is the one which yields uniformly throughout its length. If it were possible to secure track like that there would be no need for springs on a freight car, because the vertical position of the car would not change as it rolled along. The impossibility of securing that kind of track dictates the use of springs to modify the shocks that result from track irregularities causing change in the vertical position of the car body. A mathematical analysis of the action of track and springs under moving cars is too complicated to be entered into a report such as this, but it can be stated that it shows that there is one speed where the effect of a low spot in the track is maximum, higher speeds producing less disturbance in the track and consequently less disturbance in the car body.

A simple illustration of this is given in the chart of curves, showing the dynamic effect of low spots on rail, which has been taken from page 336 of Timoshenko and Lessells' text book "Applied Elasticity." Their nomenclature has been changed to make the illustration of the point clearer. The text book authors derive these curves in connection with the solution of the problem of stresses produced in track by the effect of low spots. They have simplified the problem in its presentation and point out certain cautions in connection with its application, but these do not detract from the value of the curves to illustrate the point that speed alone has a variable effect on the disturbance resulting from any track irregularity. No specific values are given on the curves shown here because they are intended to illustrate only a broad principle and are not to be applied to specific cases. In the chart, horizontal distances represent position along the track, the left hand edge of the graph corresponding to the start of a low spot, and vertical distances represent the additional deflection of the rail produced by the effect of the low spot, these being negative above the base line and positive below it. This additional deflection is in addition to that produced by the static action of the wheel load. Each curve gives the additional deflection produced at different points along the rail at one condition of speed. To distinguish these curves from each other they have been numbered from 1 to 5. Curve 1 represents any particular speed, curve 2 a speed at 1½ times as great, curve 3 twice as great, curve 4 three times as great and curve 5 four times as great. In the words of the authors "It should be noted that at the instant the wheel reaches the edge of the low spot the pressure on the rail and the deflection begin to diminish while the wheel begins to accelerate in a downward direction. Then, the retardation of this movement begins and with it the increase in pressure and deflecton, as seen from the figure." This variation in rail deflection, and with it the pressure, is what produces the shock to the car body. It can be seen from the curves that the effect is less at higher speeds than it is at some lower speed, curve No. 4 showing the maximum positive additional track deflection and rail pressure, which occurs at a point reading about .92 on the track position scale. The popular expression puts it quite tritely which says

(*Continued on page 412*)

T. & T. Section Meets in Ottawa

Papers and reports describe efficient utilization of railroad communication facilities to meet emergency requirements

THE twenty-first annual convention of the Telegraph & Telephone Section, A. A. R., held at the Chateau Laurier, Ottawa, Ont., on September 10, 11 and 12, was attended by 148 members and 27 guests. D. E. Galloway, assistant vice-president, in charge of communication on the Canadian National, chairman of the section, presided.

At the opening session on Tuesday the members were welcomed by P. J. A. Cardin, Minister of Public Works and Transport of the Dominion Government, and short addresses were made by S. J. Hungerford, chairman and president of the Canadian National; by D. C. Coleman, senior vice-president of the Canadian Pacific, and by Robert S. Henry, assistant to the president of the A. A. R. At the opening of the meeting on Wednesday, brief addresses were made by H. J. Humphrey, vice-president and general manager, Eastern lines, Canadian Pacific; by F. L. C. Bond, vice-president and general manager, Central region, Canadian National, and by G. C. Randall, chairman of the general committee of the Operating-Transportation division, A. A. R., and also manager of Port Traffic, A. A. R. Mr. Randall explained in detail the work being done in the various Atlantic and Gulf ports to expedite the movement of lighterage equipment and thereby prevent congestion of freight traffic.

Technical Papers and Reports

The program included two technical reports which were illustrated by lantern slides. J. F. Porter, assistant development engineer, Western Union, presented a paper describing the telegraph switching of private wire communication systems, and M. L. Almquist, toll transmission engineer, Bell Telephone Laboratories, Inc., presented a paper concerning the Type C-5, three-channel carrier telephone system, the term "carrier" being employed to denote that a line wire is used to carry radio frequency wave bands rather than broadcasting them for transmission in the ether as is done in ordinary radio practice. In a carrier system, various bands of radio frequencies are superimposed on existing line wires which are used also in the ordinary manner for physical telephone and telegraph circuits. For example, with one type of the carrier system, one existing line wire circuit can handle 12 telephone conversations simultaneously, or one line circuit can handle 1 physical telephone channel, and 10 telegraph channels. A special type of coaxial cable with one conductor, now being installed between Stevens Point, Wis., and Minneapolis, Minn., is to handle more than 240 different telephone conversations simultaneously. As brought out in the discussion, the development of the carrier system will release the railroads from the necessity of adding more wires to their pole lines to secure additional communication, and change the problem of the future to that of utilizing fewer line wires on pole lines rebuilt to withstand all weather conditions.

The program of the convention included the presentation and discussion of the reports of seven standing committees. The work of three of these committees is handled by sub-committees, thus in effect making a total of 13 separate committee reports on 36 various matters, including specifications, instructions and descriptions of new methods or practices. Although much of the information presented in the papers and committee reports was of a technical nature and of interest primarily to engineers in the railway communication field, nevertheless, interwoven in these reports were numerous statements concerning new developments, changes in practices and utilization of communication equipment, which are of interest to railroad men of all departments who have occasion to use such facilities in the conduct of their work. The following report is, therefore, devoted to a summary of these items of general railroad interest, with references only to the specifications and plans of a more technical nature.

As a means of reporting automatically the passing of trains at outlying points where no employees are regularly on duty, some roads have installed special equipment at field locations which, through track circuit control, cause regular telegraph code messages to be trans-

Members and Guests of the Telegraph & Telephone Section

mitted to the dispatcher over the telephone train dispatching systems. Separate codes are used to report trains moving in different directions. The report of one of the committees included a complete explanation of the construction, installation and maintenance of this automatic "OS" passing report system. During the discussion, A. S. Hunt (D. & R. G. W.) explained that his road had several installations of this equipment which were giving satisfactory service. The Erie also has several installations of this equipment.

Amplifiers and loudspeakers are being applied for various purposes in railroad service, and one of the committees presented a report explaining the use of such apparatus in connecting with telephone train dispatching systems. Several roads reported difficulties in controlling the volume of the output of the loudspeaker in a dispatcher's office which may be caused by the distance from the line stations or variations in speech. Some of the arrangements used to control the volume automatically cause a loss of the first syllable of each word. A representative of the Norfolk & Western explained that his road had several installations which operate on the principle of speech control rather than volume control. The equipment is adjusted so that the speech from the most distant station or from the operator with the weakest voice is produced satisfactorily by the dispatcher's loudspeaker, and then the automatic equipment controls all other incoming speech to the same volume level, without any lisps or loss of syllables. In general, the automatic equipment reduces rather than amplifies incoming volume.

One large communication company reports that a protective coating is now being employed on lead-sheathed cables in places where it is not economical to install or maintain the usual means of mitigating electrolysis or chemical corrosion. This coating can be applied to any lead-sheathed cable and consists of two reversed layers of Sisal Kraft paper and an outer layer of rubber-filled tape. The sheaths and each layer of protective material are flooded with asphalt compound and a coating of non-adhesive material is applied to the finished cable to prevent sticking of adjacent turns on the reel. The protective coating is about 0.1 in. thick so that the overall diameter of the cable is increased about 0.2 in. As a means of preventing or minimizing the effects of electrolysis on cables, one company has developed a reverse current switch which operates automatically. A detailed explanation of this device was presented by one of the committees.

At many locations in railroad offices and shops, noises interfere with telephone conversations, and a device known as an acoustical shock reducer has been developed to minimize such interference. A complete explanation of the installation and maintenance of these shock reducers was presented by one of the committees.

A questionnaire was sent by one of the committees to railroads which have investigated or have established the practice of providing portable radio receiving sets which can be rented by passengers on through trains. Roads such as the Atchison, Topeka & Santa Fe, the Illinois Central and the Southern Pacific report that such sets operate satisfactorily and the service is appreciated by the public. Other roads such as the Chicago, Milwaukee, St. Paul & Pacific; the Kansas City Southern and the New York, New Haven & Hartford reported that tests indicated unsatisfactory reception or a lack of demand on the part of passengers for such service.

Educational Instructions for Employees

A considerable number of the reports were prepared in the form of detailed explanations of equipment and systems of communication, the result being that these reports can be used as reference data as well as text books for the education of men entering the field. Among reports of this character was a set of instructions for telephone maintenance which occupied 87 pages in the advance notice booklet. Another section of 52 pages was devoted to instructions for the installation and maintenance of single-channel carrier telephone equipment. In a carrier system the principle of radio is utilized to superimpose radio frequencies on existing line wires, thus increasing the utilization of existing line facilities at a minimum expense.

Realizing the necessity for clearing trouble which interferes with communication circuits, one of the committees presented an extended explanation of the utilization of test sets, and another report dealt with the theory and principles of electrical protection such as fuses and lightning arresters. Another committee presented a series of 163 questions, together with answers, which may be used as an aid in educating men or in determining their qualifications as telephone maintainers.

The efficiency of linemen, as well as their safety, depend on the climbers and safety belts used by these men. For this reason, one of the committees presented a complete set of instructions concerning the use of and methods for testing climbers and belts.

Several of the reports dealt with the problems of expediting communication service on the railroads. Among

Convention at Ottawa, Ont., on September 10

these were recommendations for the classification of telegrams in accordance with their importance, the purpose being to fulfill the requirements while at the same time preventing peak loads on facilities. The use of keyboard page printers and reperforators to facilitate the relaying of messages and report forms was explained in detail, together with the advantages and disadvantages of switching devices for printers. The Pennsylvania made the first installation in its general message office at Philadelphia in October, 1938, at which time printers in the tracing bureau of the superintendent of freight transportation were connected to a switching device for direct communication with the tracing bureau and freight yards at New York, Edgemoor, Baltimore, Cape Charles, Norfolk, Harrisburg, Enola and Altoona. At the present time, its network of 75 printers so interconnected extends from New York, Atlantic City and Washington on the east, to Buffalo, Erie and Pittsburgh, including an extension to the tracing bureau at Chicago, on the west. Switching facilities are available at Philadelphia and Pittsburgh. Each of the 75 printers can communicate with each other by means of the two switching centers. On a typical day, a traffic study developed that 861 connections were established, with 959 locations, averaging 11.2 minutes holding time per connection. The work performed through the switchboards was equivalent to transmitting direct 12,000 30-word messages, of which 6,000 were formerly relayed. The study showed that one office received messages direct from 22 locations and transmitted to 19 locations. Plans have been perfected to extend the service with additional switching points ultimately. The proposed final plans will make it possible for any printer installed on the Pennsylvania to work direct with any other printer on the system, regardless of its location.

Technical Discussions

Some of the reports were of a strictly technical nature, as, for example, an illustrated explanation of the characteristics of open wire lines and cables, a discussion on factors involved in inductive co-ordination and remedial measures applicable under various conditions. Also, various committees presented specifications and standard drawings of detailed apparatus and materials, such as strain insulators, flat copper wires, pole-line hardware, crossarms, 1,000-cycle ringing apparatus, composite ringing equipment and other devices. With only two exceptions the technical reports were accepted for submission to letter ballot for inclusion in the manual. Approval was given to remove certain specifications from the manual, as, for example, the specifications for creosoted timber other than poles used in telephone and telephone plants which were superseded in the manual by a sheet referring to the specifications for the Preservative Treatment of Timber and Lumber by Pressure Processes of the American Wood-Preserver's Association. The reference is to include a suggestion that when ordering under the specification of the A. W. P. A., the minimum retention of creosote should be specified and, where desired, should include an exception covering the steaming temperature and pressure. A member explained that the last item was of importance with reference to the treatment of crossarms because temperatures too high might be harmful.

While discussing the reports concerning outside plant facilities, questions arose concerning the construction of power line wires over railroad pole lines, some concern being expressed as to the strength of certain types of stranded conductors on lines being constructed by the Rural Electrification Commission. A member explained that the National Electric Code, now being revised, would permit the type of construction being installed and in his opinion, the railroads had nothing to fear. The head guying requirements have not been altered but the side guying has been slightly reduced. While the loading conditions have been cut in half, other compensating factors have been added, and, furthermore, the previous requirements as to loading were far beyond actual service needs. It is expected that the new code will be completed and available from the Bureau of Standards by November 1, and in the meantime mimeograph sheets showing all the changes from the old code can be secured from the National Electrical Institute for 50 cents.

During the presentation of the report on new developments, J. L. Niese, (N. Y. C.) explained the Union Switch & Signal Company's system of communication now being installed in a yard of the C. C. C. & St. L. at Sharonville, Ohio, by means of which a man at the hump can talk to the engineman in the locomotive which is pushing cars over the hump. The system is of the inductive type, the rails being utilized as conductors, no radio as such being used, the apparatus and system being similar to that used for train communication on the Bessemer & Lake Erie, as described in an article in the *Railway Age* for July 20. H. W. Burwell (L. & N.) stated that a telephone system to enable the hump master to talk to the engineman of the hump locomotive is being installed at a new yard near Covington, Ky., a unique feature being the use of lamps and bells in the cab of the locomotive. A green lamp is lighted as long as the engineman is to follow previous instructions, and this also indicates that the system is in operation, while a yellow light and the ringing of a bell indicate that the hump master is talking to give a change in instructions.

At Mr. Niese's request, W. D. Hailes of the General Railway Signal Company explained that his company was developing a short-wave radio system for two-way telephone communication for use on trains or in yards. An experimental license has been granted, and rapid progress is being made in the testing and development of the system. He explained that the Federal Communications Commission had assumed a favorable attitude, indicating that licenses would be granted for the use of certain radio frequencies by railroads where an economic need is shown and especially if safety is involved.

Mr. Niese explained that the New York Central had previously installed radio systems in two yards and equipped a train, but that the licenses had been cancelled and the equipment sold for junk. These statements brought forth heated arguments to the effect that the T. & T. Section, A. A. R., had been lax in not securing assignments of radio bands for railroad use. Past officers of the Section arose to explain that they had taken care of these matters years ago, but that the railroads had not seen fit to make good use of radio, and, the waves had therefore been assigned to other uses. The consensus was that plenty of wave bands are still available and can be secured if the railroads are serious in their efforts to develop useful applications of radio.

Other members contended that radio as such was not adaptable for 24-hour service the year around over long distances because of fading conditions, and that the provision of railroad-owned stations could not be justified economically for emergency service. On the other hand, plenty of sending and receiving stations now operated by various public utility companies as well as by amateurs are available for such emergency use as may be required by the railroads. A suggestion was made that each railroad investigate such stations in its territory and make arrangements for co-operative service in case emergencies do occur.

I. B. Tigrett Heads G. M. & O.

New 2,000 mile trunk line results from merger of Gulf, Mobile & Northern and Mobile & Ohio

Pictures Inc.

I. B. Tigrett

MERGER of the Gulf, Mobile & Northern and the Mobile & Ohio was completed on September 13 and a new trunk line of 2,000 miles, the Gulf, Mobile & Ohio, has come into existence, headed by I. B. Tigrett, former president of the G. M. & N. This new line between the north and the south, dreamed of as early as 1869, provides two routes from St. Louis, Mo., to Mobile, Ala., and one from St. Louis to New Orleans, La., with trackage rights to Memphis, Tenn., and Birmingham, Ala. One of the St. Louis-Mobile routes includes the 648-mile line of the M. & O. via Jackson, Tenn., and Meridian, Miss., while the other is composed of the 261 miles of the M. & O. from St. Louis to Jackson and the 409 miles of the G. M. & N. from Jackson to Mobile via Union, Miss., and Laurel.

The St. Louis-New Orleans route consists of the 261 miles of the M. & O. from St. Louis to Jackson, the 453 miles of the G. M. & N. from Jackson to Slidell and the 35 miles of the New Orleans Great Northern between Slidell and New Orleans, leased by the G. M. & N. Besides being a through route to Gulf points, the new railroad will serve the five states through which it passes. Of the 7,977,888 tons of freight handled by the two roads in 1938, 3,977,729 tons originated on their lines, and of the latter 1,979,047 tons were delivered to connecting lines.

Through Route Dreamed of in 1869

While the unification of these railroads establishes a new through route between Illinois and Gulf ports, it is not the first time that they have been considered as such. As early as 1900, the Chicago, Burlington & Quincy studied the possibility of extending its lines southward from the middle west to the Gulf of Mexico. In the development of this idea, it built an extension from Herrin, Ill., to Paducah, Ky., and in 1928 it acquired more than 25 per cent stock interest in the G. M. & N. In the meantime, the G. M. & N. extended its operation from its northern terminal at Jackson, Tenn., to Paducah in 1926 through trackage arrangements with the Nashville, Chattanooga & St. Louis. The completion of this link brought the realization of a dream of Col. W. C. Faulkner, who in 1869 began the construction of the Ripley Railroad with visions of an eventual Great Lakes to the Gulf railroad. The G. M. & N., in order to reach New Orleans, La., bought the Jackson & Eastern in 1926 and extended it into Jackson, Miss., where connection was made with the New Orleans Great Northern which it acquired by lease.

On June 7, 1933, the G. M. & N. cancelled its trackage agreement with the N. C. & St. L. and began operation over the Illinois Central between Paducah and Jackson, Tenn. It discontinued this joint-use contract on July 19, 1938, when employees of the I. C. insisted that they be permitted to handle G. M. & N. trains while on I. C. tracks and since that date has turned its traffic for the north over to the Mobile & Ohio for movement from Jackson, Tenn., to East St. Louis, Ill., where connection is now made with the Burlington.

The Mobile & Ohio has been a through route between St. Louis and the Gulf since 1886 when, after extending its Mobile-Columbus, Ky. line to Cairo, Ill., in 1881, it took a 45-year lease of the St. Louis & Cairo and thereby gained entrance to St. Louis. In March, 1901, the Southern gained control of the M. & O. through the acquisition of 90 per cent of its capital stock and 70 per cent of its general mortgage bonds. The Mobile & Ohio went into receivership in 1932.

At the present time, the M. & O. operates extensive terminal facilities in Mobile. It owns the Mobile Docks Company, controls the Warrior Southern, is a joint owner of the Gulf Terminal Company and the Meridian Terminal Company and owns other terminal property in Mobile, including 3,505 lineal feet of wharf and 276,300 square feet of warehouse floor space, in addition to 1,980 lineal feet of wharf with 155,375 square feet of warehouse floor space owned jointly with the Southern.

The lines of the G. M. & N. and the M. & O. are roughly parallel from Jackson, Tenn., to Mobile, Ala., and both have been confronted with the same problem —loss of traffic due to the exhaustion of forest products

and highway competition. In 1926 the G. M. & N. realized that successful operation would not continue unless some way was found to secure a longer haul on the traffic it originated and controlled. Since 1920 its classification of freight has experienced radical changes. Forest products dropped from 63 per cent of its traffic in 1920 to 29 per cent in 1938 while products of mines increased from 12 per cent in 1920 to 24 per cent in 1938 and manufactures and miscellaneous products increased from 11 per cent in 1920 to 36 per cent in 1938.

In spite of this radical change in the character of its traffic since 1920, the G. M. & N. has shown a profit before dividends in every year with the exception of those between 1931 and 1934. Its net income in 1938 was $115,588; in 1937, $345,118; in 1936, $706,553 and in 1935, $404,710.

The traffic of the M. & O. also underwent a change during this period. Forest products dropped from 28 per cent in 1920 to 19 per cent in 1938, while agricultural products increased from 17 per cent in 1920 to 32 per cent in 1938, products of mines dropped from 34 per cent in 1920 to 8 per cent in 1938, and manufactures and miscellaneous products increased from 15 per cent in 1920 to 30 per cent in 1938.

From 1921 to 1929 inclusive the M. & O. was able to meet its fixed charges but during the period from 1930 to 1938 inclusive it failed to do so except in 1932 when its net income was $2,237,427. Its deficit in 1938 was $558,346; in 1937, $647,439; in 1936, $377,645 and in 1935, $1,583,767.

For the 11 years from 1928 to 1938, the gross revenues of the two companies averaged $18,713,000 and the income available for fixed charges was $1,953,000. For 1938 the gross revenues were $17,946,000 and the income available for fixed charges $1,889,000.

Studies made by the railroads prior to the merger showed that substantial additional net earnings will result from the unified operation of the two properties. For instance, based upon actual operations and earnings during 1937, the lowest estimate indicates that net earnings would have been increased $1,500,000 after provision for wage dismissal payments for one year, under unified operation, as a result, in part, of a longer haul on and increased revenues from traffic controlled by the two railroads and from operating economies. Another estimate indicates that if the benefits of unified operation had been fully realized, the additional net earnings under unified operation for the years 1936, 1937 and 1938 would have been $1,604,000, $1,795,000 and $1,316,000 respectively.

The capitalization of the new company will be as follows:

FIXED INTEREST BEARING OBLIGATIONS OF NEW COMPANY

	To Be Outstanding with Public (Maximum)	Annual Interest Requirements
New Company R. F. C. 4% Ten Year Loan	$9,500,000	$380,000
New Company First Mortgage Bonds, 4% Series B (35-year maturity)	5,913,700	236,548
M. & O. Equipment Trust Certificates	$990,000	36,147
G. M. & N. First Mortgage Bonds	9,986,000	519,295
G. M. & N. 3% Secured Serial Notes	590,000	16,950
G. M. & N. Equipment Trusts	1,152,000	24,030
N. O. G. N. First Mortgage Bonds of Series A, 5%	3,739,000	186,950
Total	$31,870,700	$1,399,920

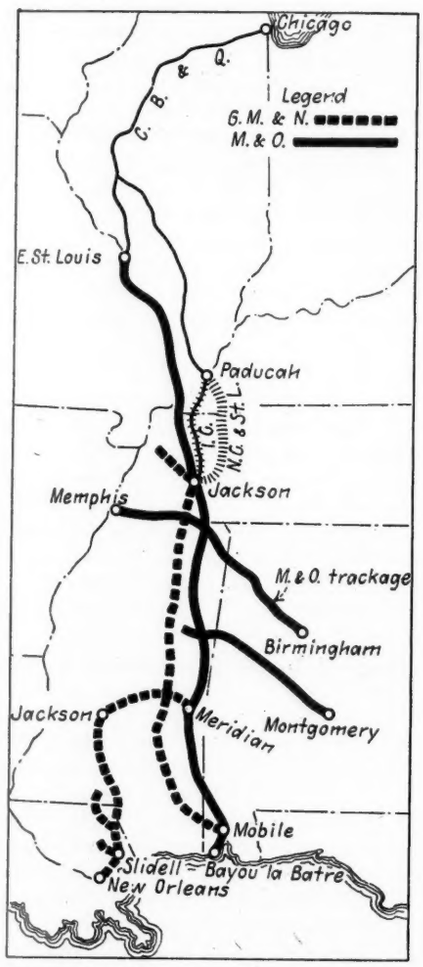
OTHER CAPITAL SECURITIES OF NEW COMPANY

	To Be Outstanding with Public	Annual Interest or Dividends
New Company General Mortgage Bonds, 5% Income Series A (75-year maturity)	$6,025,800	$301,290
New Company $5 Preferred Stock without par value	305,750 sh.	1,528,750
New Company Common Stock without par value	609,847 sh.	.....
Total	.....	$1,830,040

Directors of the new company held their first meeting at New York on September 13 and elected the following officers: President, I. B. Tigrett, president of the G. M. & N.; executive vice-president, F. M. Hicks, executive vice-president of the G. M. & N.; vice-president, C. E. Ervin, receiver for the M. & O.; vice-president and general counsel, J. N. Flowers, vice-president and general counsel of the G. M. & N.; secretary, G. M. Wahl, secretary and assistant treasurer of the G. M. & N.; and treasurer, G. M. White, treasurer of the G. M. & N. Directors of the new company are: James G. Blaine, R. F. Brown, W. H. Coverdale, A. C. Goodyear, N. Baxter Jackson, and E. D. Scruggs, all of New York; Ralph Budd, V. V. Boatner and Ward G. Castle, Chicago; I. B. Tigrett, J. F. McRae and H. A. Pharr, Mobile, Ala.; Willard R. Cox, St. Louis, Mo.; J. N. Flowers, Jackson, Miss., and William J. Rushton, Birmingham, Ala. The new line began operations as of September 1.

Mr. Tigrett has long been an outstanding figure in the development of the south and has done much to improve agriculture and bring new industries into this territory. His rise has been dramatic. He was born at Friendship, Tenn., on September 15, 1879, and attended Union University where he was prominent in football and baseball, and graduated in 1898. He helped organize the Bank of Halls, Tenn., in 1899, and served as its cashier until 1903 when he became one of the organizers of the Union Bank & Trust Company at Jackson, Tenn., where he held the position of cashier until 1912.

(*Continued on page 409*)



The Gulf, Mobile & Ohio Provides a New Route Between the North and the South

S. 2009 Signed by President

Transportation Act of 1940 alters many provisions of present Interstate Commerce Act while adding a new Part III to regulate water carriers

WASHINGTON, D. C.

PRESIDENT ROOSEVELT on September 18 signed S. 2009, the Wheeler-Lea omnibus transportation bill, thereby making it the Transportation Act of 1940. As noted in last week's issue Congressional action on the bill was completed September 9, when the Senate approved the revised conference report; and the President's favorable action was expected in view of the fact that the measure had evolved from recommendations of his committee-of-six.

The act is the most important piece of transportation legislation enacted since the passage of the Transportation Act of 1920. It amends various provisions of the present Interstate Commerce Act, Part I, and Part II, the Motor Carrier Act, while adding a new Part III for the regulation of water carriers. The new law is reviewed below.

The act is set up in three titles. Title I—Amendments to Existing Law, covers various changes in Part I, the railroad part of the Interstate Commerce Act, and in Part II, the Motor Carrier Act; Title II—Regulation of Water Carriers in Interstate and Foreign Commerce. is the Interstate Commerce Act's new Part III; and Title III—Miscellaneous, covers such matters as the investigation of various modes of transportation, conditional repeal of land-grant rates, and the liberalizing amendments to the Reconstruction Finance Corporation's railroad-loan provisions.

Declaration of Policy

First of the amendments to existing law is the new declaration of national transportation policy, covering all forms of transportation subject to the act. It reads as follows:

> It is hereby declared to be the national transportation policy of the Congress to provide for fair and impartial regulation of all modes of transportation subject to the provisions of this Act, so administered as to recognize and preserve the inherent advantages of each; to promote safe, adequate, economical, and efficient service and foster sound economic conditions in transportation and among the several carriers; to encourage the establishment and maintenance of reasonable charges for transportation services, without unjust discriminations, undue preferences or advantages, or unfair or destructive competitive practices; to cooperate with the several states and the duly authorized officials thereof; and to encourage fair wages and equitable working conditions—all to the end of developing, coordinating, and preserving a national transportation system by water, highway and rail, as well as other means, adequate to meet the needs of the commerce of the United States, of the Postal Service, and of the national defense. All of the provisions of this Act shall be administered and enforced with a view to carrying out the above declaration of policy.

Meanwhile the declaration of policy with respect to motor transportation which has been in the Motor Carrier Act's section 202 is repealed; but there is no repeal of that declaration in section 500 of the Transportation Act of 1920 which sets forth Congress' policy "to promote, encourage, and develop water transportation, service, and facilities in connection with the commerce of the United States, and to foster and preserve in full vigor both rail and water transportation."

Paragraph (3) of section 1 of the Interstate Commerce Act is amended to include a definition of the term "person" as used in Part I. That term is defined as including "an individual, firm, copartnership, corporation, company, association, or joint-stock association," and also "a trustee, receiver, assignee, or personal representative thereof." The same paragraph is further amended by adding a new definition of control to apply in various sections of the act where reference is made to a relationship between any person or persons (as above defined) and another person or persons. In other words such references to "control" shall hereafter be construed "to include actual as well as legal control." Paragraph (4) of section 1 is amended to make it the duty of railroads to establish through routes with the water carriers subject to the new Part III.

Passes for Labor Lawyers

Then come the amendments to paragraph (7) of section 1 which relates to transportation at free or reduced rates. Here the railroads are authorized to give passes to executive officers, general chairmen and counsel of employees organizations "when such organizations are authorized and designated to represent employees in accordance with the provisions of the Railway Labor Act." There is also a change with respect to the free transportation authorized to be furnished to Post Office Department employees in the Railway Mail Service. Along the same line is an amendment to section 22, adding "the transportation of persons for the United States government free or at reduced rates" to the list of things which "nothing in this part shall prevent." Another section 22 amendment will permit the free carriage and storage of household goods of railroad employees who are required to move as a result of a change in the place of their employment; a third repeals that provision of the present law which authorized the railroads to grant reduced rates "with the object of improving nation-wide housing standards, providing employment and stimulating industry"; and a fourth repeals provisions requiring railroads to issue interchangeable mileage or scrip coupon tickets.

Returning to section 1, paragraph (14) is rewritten to increase the commission's power with respect to equipment rentals paid by the railroads. It will hereafter be able to inquire into arrangements for the use of privately-owned rolling stock, i. e., "whether or not owned by another carrier." Also, it now becomes unlawful for any railroad or express company to enter any contract for the furnishing of protective service against heat or cold, or to continue after April 1, 1941, as a party to any such existing contract unless the arrangements have been approved by the commission. The commission is authorized to extend the aforementioned April 1, 1941, deadline until October 1, 1941. A new paragraph (17) (b) in section 1 makes it unlawful to bribe any railroad employee with intent to influence his action with respect to the distribution or movement of cars; while paragraph

(18) is amended by adding a new sentence to stipulate that railroads may without commission approval enter contracts with each other "for the joint ownership or joint use of spur, industrial, team, switching, or side tracks."

The first of the amendments to section 3 (which prohibits the giving of undue or unreasonable preferences or advantages by carriers subject to Part I) rewrites paragraph (1) of that section to add "region, district, territory" to the list of localities against which the undue or unreasonable preference is prohibited; and to add a proviso to the effect that the paragraph shall not be construed "to apply to discrimination, prejudice, or disadvantage to the traffic of any other carrier of whatever description." Then comes a new paragraph (1) (a) which is the modified version of the Jones agricultural rate amendment. It declares it to be the policy of Congress "that shippers of wheat, cotton and all other farm commodities for export shall be granted export rates on the same principles as are applicable in the case of rates on industrial products for export"; and the commission is directed "on its own initiative or on application by interested persons, to make such investigations and conduct such hearings, and, after appropriate proceedings, to issue such orders, as may be necessary to carry out such policy." And another new paragraph (1) (b) gives the commission another job of investigation—the probe of interterritorial freight rates in connection with which the governors of Southern states have been alleging discrimination against their section. The paragraph contains a proviso which authorizes the commission in its discretion to confine this investigation to rates which shippers specifically ask to have investigated.

Liability for Freight Charges

Paragraph (2) of section 3 is amended to make the beneficial owner liable for freight charges on reconsigned or diverted shipments which are refused or abandoned at ultimate destination. If, however, the reconsignor or diverter has given erroneous information as to the beneficial owner, such reconsignor or diverter is made liable for the charges. A new paragraph (3) relieves a consignor of liability for charges on collect shipments wherein carriers have failed to carry out instructions to deliver to another party only upon payment of all transportation charges. Section 3's present paragraph (3) which relates to the affording of facilities for the interchange of traffic becomes paragraph (4), and is rewritten to make the term "connecting line" mean the "connecting line of any carrier subject to the provisions of this part or any common carrier by water subject to Part III." Paragraph (4) of section 3, which relates to the commission's power to require common use of terminals, now becomes paragraph (5), and it is amended to limit its application to railroads.

Changes in the fourth section eliminate the equidistant clause and make remaining provisions—the long-and-short-haul clause and the aggregate-of-intermediates provision—applicable to water carriers as well as railroads. Also, there is the new proviso designed to expedite fourth-section procedures; it permits the filing of tariffs carrying the proposed rates simultaneously with the application for relief. If the latter is approved the commission "shall permit such tariffs to become effective upon one day's notice."

Section 5 which covers pooling, unifications, mergers, and acquisitions of control, is rewritten to make it applicable to all carriers subject to the Act. At the same time the consolidation provisions in the Motor Carrier Act (section 213) are repealed. In the new pooling provisions there is a stipulation that any such arrangement to which a water carrier coming under regulation is a party shall, if filed with the commission within six months, continue to be lawful until the commission finds that it is not in the public interest. Then comes the change in the provisions setting forth the commission's authority over consolidations, including the repeal of provision requiring the commission to formulate and promote its nationwide plan for the consolidation of railroads. Railroads will still have to make a special showing in connection with their applications for authority to acquire motor carriers, although there is a change in the language of that provision. As written in the new act it requires a commission finding that the proposed transaction "will be consistent with the public interest and will enable such carrier (the railroad) to use service by motor vehicle to public advantage in its operations and will not unduly restrain competition." Section 213 of the Motor Carrier Act had required a finding that the proposed transaction "will promote the public interest by enabling such carrier," etc.

Fixed Charges in Consolidations

In passing upon any consolidation the commission will henceforth be required to give weight to the effect on adequate transportation service to the public; the effect on the public interest of inclusion or failure to include other railroads in the territory involved; the total fixed charges resulting from the transaction; and the interest of the carrier employees. Conditions may be imposed to require the inclusion of other railroads. With respect to fixed charges there is a provision which stipulates that no transaction which contemplates a guaranty or assumption of payment of dividends, or fixed charges, shall be approved except upon specific finding by the commission that such guaranty or assumption "is not inconsistent with the public interest." Moreover, "no transaction shall be approved . . . which will result in an increase of total fixed charges, except upon a specific finding by the commission that such increase would not be contrary to the public interest."

Next comes the modified Harrington "labor-protection" amendment which requires the imposition of conditions in connection with railroad consolidations so that during a period of four years they will not result in leaving any employees "in a worse position with respect to their employment." In the latter connection, however, the protection is limited so that it will not apply for a longer period following the consolidation than the period during which an employee was employed prior to the effective date of the merger. Motor carrier mergers where not more than 20 vehicles are involved remain exempt. A new provision states that the authority conferred by the consolidation section "shall be exclusive and plenary"; and any transaction thereunder approved by the commission may be put into effect by the carriers involved "without invoking any approval under State authority." Likewise, approved transactions are to be exempt from the anti-trust laws, and from all other restraints of law insofar as it may be necessary to make them effective. However, "nothing in this section shall be construed to create or provide for the creation, directly or indirectly, of a federal corporation. . . ."

Panama Canal Act Changes

The Panama-Canal Act changes which gave rise to the points of order raised against the bill in the last-ditch fight of its opponents are also in the consolidation section. These amendments clarify the situation, making it clear that the commission may permit a railroad to acquire a water line, other than one operating through

the Panama Canal—if such acquisition will not prevent the water carrier from being operated in the public interest, or exclude, prevent, or reduce competition by water on the route involved.

Amendments to section 6 clarify the commission's authority with respect to the filing of tariffs. Also, they repeal that obsolete provision which has required railroads to furnish upon request a written statement of the rate applicable to a described shipment, and to keep posted in every freight station the name of a resident agent. Another change in section 6 is the new paragraph which authorizes the commission to require a carrier, which has entered arrangements with a water carrier operating from a United States port to a foreign country, to enter similar arrangements with all other water carriers operating on the same foreign-trade route.

Amendments to section 12 augment the commission's investigating powers by authorizing it to inquire into "the management of the business of persons controlling, controlled by, or under a common control with," carriers subject to the act. Changes in section 13 extend the commission's authority to cooperate with State authorities to matters arising in connection with water carrier regulation; and permit the federal agency to grant cooperating state authorities allowances for travel and subsistence expenses.

New Through-Routes Provisions

First of the amendments to section 15 is that which strikes out the provision limiting the commission's power over joint rail-water rates to the prescription of maximum rates. It now gets minimum as well as maximum powers over all rates subject to the act. Also, the railroad through-routes provisions of this section are changed. In the latter connection the commission gets power to prescribe through routes and joint rates without reference to the short-hauling of any carrier—if it finds such routes necessary to provide "adequate, and more efficient, or more economic, transportation." However, "reasonable preference" must be given to the railroad which originates the traffic; and no through route can be established for the purpose of assisting any carrier to meet its financial needs. Paragraph (7) of section 15 is amended to place the burden of proof upon a carrier with respect to any proposed change in a rate; heretofore this burden has been upon the carrier only when rate increases were being proposed. Paragraph (13) is changed to require the filing in tariffs of allowances paid to shippers, while paragraph (2) of section 15a—the rate-making rule—is rewritten to incorporate a stipulation that consideration given the effect of rates on the movement of traffic shall be limited to the traffic of "the carrier or carriers for which the rates are prescribed." The new rate-making rule thus reads as follows:

> In the exercise of its power to prescribe just and reasonable rates the commission shall give due consideration, among other factors, to the effect of rates on the movement of traffic by the carrier or carriers for which the rates are prescribed; to the need, in the public interest, of adequate and efficient railway transportation service at the lowest cost consistent with the furnishing of such service; and to the need of revenues sufficient to enable the carriers, under honest, economical and efficient management, to provide such service.

Amendments to section 16 change from three years to two years the limitations of time within which actions for recovery of undercharges or overcharges or reparations may be begun. Section 16a, which relates to rehearings by the commission, stays and decisions, is repealed and commission procedure covered in a rewritten section 17. In the latter the commission gets increased authority to divide and assign its work, although the assignments of matters relating to rates, fares or charges must not be made according to the class of carriers or mode of transportation involved.

I. C. C. May Create Appellate Division

The new language authorizing the commission to set up divisions of its members stipulates that an appellate division may be created. Also, work may be assigned to individual commissioners or boards of not less than three employees of the commission. Eligible employees are examiners, directors or assistant directors of bureaus, chiefs of sections or attorneys. There will be a right of appeal to the commission or division thereof from decisions of individual commissioners or boards of employees; but the commission may limit the right of appeal to proceedings involving "issues of general transportation importance." Here also the representatives of carrier employees get the right to intervene in proceedings before the commission; and the commission gets authority to impose a "reasonable" fee for admission to practice before it.

Under the amendments to section 20 which relates to accounts and records of carriers subject to Part I the commission gets increased powers, among them the authority to require "true and correct" as well as the previously-required "specific and full" answers "to all questions upon which the commission may deem information to be necessary." Also in this place is authority for the commission to examine the accounts and records of persons who furnish cars or protective service against heat or cold. Section 25, which has covered schedules of water carriers heretofore subject to the act, is repealed; and sections 26 and 27 are renumbered accordingly as 25 and 26.

After repeal of the separate declaration of policy, as noted in the foregoing, the Motor Carrier Act amendments further change section 202 by adding a new paragraph (c) to exempt from regulation as motor operations the terminal services of railroads, water carriers and express companies, such operations to be subject to Parts I or III, as the case may be. Section 203 "Definitions" is amended to tie in with the foregoing and to grant an absolute exemption from regulation to trolley buses furnishing local passenger service. The exemption for farm trucks is made to apply only when such vehicles are being used in the transportation of the vehicle-owners' agricultural commodities, while a new exemption is granted to vehicles controlled and operated by federal cooperative associations. The exemption for vehicles handling live-stock becomes limited to the carriage of ordinary livestock. The provision exempting the casual or reciprocal transportation of passengers or property is changed to exclude from the exemption such transportation when it is offered for sale or furnished or arranged for by a broker.

Exemptions for Intrastate-Route Motor Services

Next comes the amendment to section 204, giving the state commissioners something of what they wanted in the way of exemption from federal regulation for motor carriers engaged in interstate commerce, but operating on intrastate routes. It provides that the commission may exempt such operations when the result will not be such as to impair uniform regulation or hamper the carrying out of the act's declaration of policy. Also there is a proviso to the effect that it shall not be considered a burden upon interstate commerce for a state to regulate the operations thus exempt. Other amendments to section 204 give the commission increased

powers to inquire into the business of persons controlling motor carriers, and repeal obsolete provisions relating to codes of fair competition set up under the National Industrial Recovery Act. Changes in section 210 clarify the commission's powers with respect to dual common and contract carrier operations of motor carriers. The new provision states that the same person shall not hold a common-carrier certificate and a contract-carrier permit unless the commission finds that such a situation is consistent with the public interest.

Section 216, which prohibits the giving of undue preference or advantage by motor common carriers, like the corresponding section of Part I, is amended to add "region, district, territory" to the list of localities against which the undue preference is prohibited. Another change extends to seven months the limit of time during which the commission may suspend a motor carrier tariff, and thus makes it the same as the corresponding provision of Part I. Also, the burden of proof is placed upon motor carriers to justify any change (not only increases) in rates, classifications, rules, regulations or practices. In the rate-making rule for motor carriers the words "by the carrier or carriers for which the rates are prescribed" are added, as was the case with respect to Part I's rate-making rule. Section 218, which relates to schedules of contract carriers, is amended to provide that schedules must be filed with the commission showing minimum rates "actually maintained and charged. The burden-of-proof rule applicable to common carriers with respect to changes in rates is applied also to contract carriers, as is the authority of the commission to suspend schedules for seven months. In addition the commission gets authority (as a result of the amendments to section 220) to require the filing of true copies of any contract, but it must not make such contracts public except in a formal proceeding where it considers such action consistent with the public interest. Other amendments to section 220 give the commission increased authority with respect to annual reports and other reports of motor carriers, in which connection there is a proviso that no carrier report of an accident nor the report of a commission investigation thereon shall be admitted as evidence in any suit for damages growing out of any matter mentioned in such report.

Amendments to sections 221 and 222 make some changes in provisions covering the time within which commission orders may be made effective, and the penalties for disclosure of information by commission examiners and special agents. Section 225 which has called for a commission investigation of the need for federal regulation of sizes and weights of motor vehicles is replaced by a new section 225 which authorizes allowances by motor carriers to shippers and requires that such allowances be published in tariffs. Meanwhile the provision with respect to the sizes-and-weights investigation, becomes section 226; and to it is added the order directing the commission to expedite the study. Present sections 226 and 227 are renumbered 227 and 228; they cover the separability of provisions of the motor act and the times in which its provisions became effective, and are not amended.

Water-Carrier Provisions

As noted above, Title III comprises the Interstate Commerce Act's new Part III providing for the regulation of water carriers. For the non-exempt carriers this regulation is of the same comprehensive type as is provided for railroads and motor carriers, its pattern being more like the latter. There are, however, important exceptions to the general rule that all domestic common and contract water carriers are covered. These exemptions relieve from regulation transportation by water of commodities in bulk when not more than three such commodities are being transported; contract carriers by water of commodities in bulk on the Great Lakes; the transportation by water of liquid cargoes in bulk in tank vessels. Moreover, it is declared to be the policy of Congress to exempt "transportation by contract carriers by water which, by reason of the inherent nature of the commodities transported, their requirement of special equipment, or their shipment in bulk, is not actually and substantially competitive with transportation by any common carrier subject to this part or Part I or Part II." Exemption under the latter provision comes only after application to the commission; although a carrier (other than a carrier now subject to Maritime Commission regulation) making such application prior to January 1, 1941, is exempt pending the determination of its application, provided it was in bona fide operation on January 1, 1940 (Part III's "grandfather" date).

Also exempt are railroad marine operations, water operations solely within the limits of a single harbor when such operations are not part of a continuous through movement under common control, small craft of not more than 100 tons capacity or not more than 100 horsepower, vessels equipped to carry no more than 16 passengers, and ferries. Finally, if the commission finds that a water carrier is engaged solely in transporting the property of a person that owns all or substantially all of its voting stock, it is required to issue a certificate of exemption. Such certificates of exemption may be revoked if the circumstances which justified their issuance change. Meanwhile no different regulatory policy is to be applied with respect to any carrier owned by the federal government than is applied to other water carriers subject to the act.

Under the section which relates to the general powers and duties of the commission is a provision stipulating that the regulation may be eased to the extent deemed necessary by the commission with respect to any water carrier operating to or from a port in a foreign country which finds itself at a disadvantage in the competition with unregulated lines operating on the same route. Water carriers are required to enter joint-rate arrangements with railroads; and they may establish such arrangements with motor carriers. Part I's provision with respect to free transportation are applied to water carriers. Like contract motor carriers, contract carriers by water must file their minimum rates "actually maintained and charged"; and the commission gets minimum and maximum powers over water carrier rates. Water carriers may be required to join in through routes with each other and with railroads; and the commission is given authority to fix differentials between all-rail and rail-water rates. The burden-of-proof provisions with respect to changes in water rates are the same as those of Part I and the Motor Carrier Act; likewise, the water-carrier rate-making rule is the same, as is the seven-months' limit of time during which the commission may suspend a schedule. In the latter connection, however, the initial schedules of water carriers can not be suspended, if filed prior to October 1, 1941, by carriers in operation on January 1, 1940, and not subject to Maritime Commission regulation. The same exemption is provided for minimum-rate schedules of contract carriers by water.

Reparations provisions are like those applicable to railroads, while the provisions relating to certificates and permits are like those of the Motor Carrier Act, the "grandfather" date being January 1, 1940, as noted above. Also, like those of the Motor Carrier Act are the provisions relating to dual operations by water carriers; to the commission's power to grant authority for

temporary operations; sections covering accounts, records and reports; allowances to shippers; enforcement and procedure; and collection of rates and charges. Remaining sections provide for repeal of superseded sections of various shipping and merchant marine acts; the transfer of Maritime Commission employees to the I. C. C., and the transfer of proceedings pending before the Maritime Commission. The important provisions, such as those relating to rates, certificates and permits, become effective next January 1, although the commission is authorized to postpone the effective date from time to time, but not beyond April 1, 1942. Other provisions became effective as of the date of enactment.

First of the provisions under Title III—Miscellaneous is that which calls for the appointment by the President with the advice and consent of the Senate of a three-member board to study the relative economy and fitness of the various agencies of transportation; the extent of government aids to each form of transport; and the extent to which taxes are imposed upon carriers. Also, the board may investigate any other matter relating to rail, motor or water carriers which it may deem important to investigate for the improvement of transportation conditions and to effectuate the transportation policy declared in the act. Members of the board will receive $10,000 a year; its secretary $7,500 and its general counsel $9,000. Preliminary reports to the President and Congress are called for by May 1, 1941. In addition the Board is required to submit annual reports and a final report. It is given a two-year life with power for the President to extend such life two additional years.

The second of the miscellaneous provisions deals with rates on government traffic. Here is the partial and conditional repeal of land-grant rates. In the former connection the repealer stipulates that the land-grant reductions shall continue to apply on the transportation of military or naval supplies and military and naval forces and their property when members of such forces are traveling on official duty. The condition stipulates that the repeal shall not apply with respect to any railroad which fails within one year to file a release to claims for lands in litigation with the government; although there is no requirement that there be a return of any lands already certified to railroads. Other changes in connection with government traffic stipulate that the government shall not be required to advertise for bids in connection with the procurement of transportation when the desired services can be procured from common carriers. The present law has been interpreted to require bids from motor carriers.

Finally, there is the provision requiring the government to pay its bills for transportation upon presentation, prior to audit; although overpayments may be deducted from any subsequent payment.

The last of the miscellaneous provisions carries the amendments to the Reconstruction Finance Corporation Act. They authorize R. F. C., with the approval of the I. C. C., "to aid in the financing, reorganization, consolidation, maintenance or construction thereof, purchase for itself, or for account of a railroad obligated thereon, the obligations of railroads engaged in interstate commerce, or of receivers or trustees thereof. . . ." Also, there is a liberalization of the provisions with respect to certifications required from the I. C. C. and an increase from $350,000,000 to $500,000,000 in the limit on loans to railroads, in addition to loans and commitments made prior to January 31, 1935. Finally, the R. F. C. gets something of what it wanted in the way of authority to dispose of collateral pledged with it for loans to railroads subsequently forced into receivership or trusteeship. The provision is limited in its application to collateral pledged by railroads not now in receivership or involved in trusteeship proceedings.

Railroad Problem Not Solved, Says A. A. R.

After the President had signed the bill, the Association of American Railroads issued a statement reviewing its legislative history and its main provisions. The statement pointed out that the act "does not by any means include all recommendations" of the Committee-of-Six; but adds that the act does accomplish "Certain desirable ends," and "it may be said that the present situation is improved." The A. A. R. concludes its comments as follows:

"No one connected with the railroad industry believes for a moment that the passage of this Act has solved the railroad problem or that it will result immediately in large increases in revenue. The Act contains some provisions which the railroads regard as unwise. One of these has been mentioned above, in connection with consolidation legislation [the Harrington amendment]. Another is a provision dealing with export rates on agricultural products [the Jones amendment], a matter which would better, we think, have been left alone. The railroads would be better satisfied with the regulation of water carriers if bulk carriers were included. The Act does not exercise any restraining influence over the improvident expenditure of public funds for the extension of waterways. It does not modify the Panama Canal Act or the Denison Act. Yet the Act does indicate a disposition on the part of Congress to view the transportation problem as a whole and to disregard all considerations except those which conserve the public interest. The Act lays new duties and responsibilities upon the Interstate Commerce Commission and the enactment of the legislation is a tribute to the confidence in which that body is regarded by Congress and the country."

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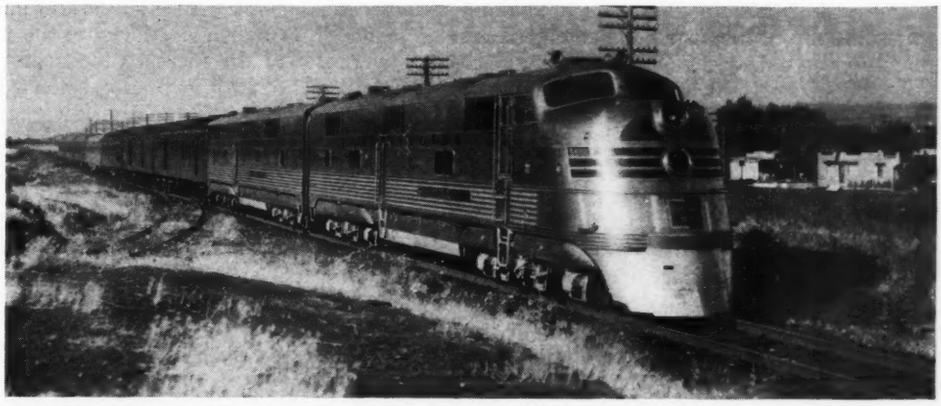

The "Advance Texas Zephyr" Approaches Denver, Colo., As Colorado & Southern Train No. 9990

Photo by R. H. Kindig

Roadmasters Hold Largest Convention Since 1929

Roadmasters Observe Maintenance Practices and Materials on the Chicago Terminals of the C. M. St. P & P.

Near all-time record meeting, studies problems relating to roadway and track in the light of higher speeds and increased traffic —View large exhibit of track materials and equipment

Part I

IN an atmosphere charged with the feeling that the days immediately ahead will place increased burdens upon the railways with largely increased responsibilities on all those engaged in roadway and track maintenance work, the Roadmasters' and Maintenance of Way Association held its fifty-fifth annual convention at the Hotel Stevens, Chicago, on September 10-12, with a timely and constructive program. Coming from 43 states and Canada, 379 roadway officers were present at the various sessions, one of the largest attendances in the history of the association. Including exhibitors, the attendance at the convention was more than 680.

The program included committee reports on Slow Orders—Their Use in the Light of Present-Day Operating Conditions; The Effect of Weight of Rail on Track Maintenance; Methods and Equipment Best Suited for Ditching and Bank Widening; Welding—Its Uses in Track Work; The Maintenance of Gage—Its Importance Under Today's Higher Speeds; and Organization, Equipment and Methods for Handling Snow and Ice in Terminals and on the Line. In addition, the convention was addressed by C. E. Johnston, chairman, Western Association of Railway Executives, who welcomed the roadmasters to Chicago and exhorted them to a greater interest in the problems of management and of securing public good will; by H. R. Clarke, engineer maintenance of way, Chicago, Burlington & Quincy, who spoke on The Task of Renewing 50,000,000 Ties a Year; by C. H. R. Howe, cost engineer, Chesapeake & Ohio, who discussed The Simplification of Track Work; and by A. E. Perlman, engineer maintenance of way, Denver & Rio Grande Western, who addressed the convention on It's Results That Count. Abstracts of the addresses by Messrs. Johnston and Perlman and the reports of three committees follow. Abstracts of the other addresses and reports will appear in the issue for next week.

A special feature of the meeting was an evening session on Tuesday, addressed by F. H. Rothe, assistant engineer, Pennsylvania, on Making Work Equipment Work, which was supplemented by motion pictures showing a wide variety of maintenance of way work equipment in operation. Other special features included the twenty-sixth annual banquet on Wednesday night, tendered to members of the association and their families by the Track Supply Association, which was attended by 642 persons; and an inspection trip on Thursday by special train over the Chicago terminals of the Chicago, Milwaukee, St. Paul & Pacific, where members were given an opportunity to observe maintenance practices and materials on this road and a number of tests that are under way. Still another feature of the convention was a period set aside in the busy program to pay tribute to the memory of C. A. Lichty, secretary of the association, who died on April 18. All sessions of the convention were presided over by G. L. Sitton, chief engineer maintenance of way and structures, Southern, and president of the association.

In conjunction with the convention, and of large interest and practical value to those in attendance, 55 manufacturers of materials and equipment employed in track construction and maintenance, presented an exhibit of their products, in the Exhibition hall, directly adjacent to the meeting room of the convention.

At the final session of the convention on Thursday, J. J. Clutz, division engineer, Pennsylvania, at Indianapolis, Ind., was advanced from first vice-president to president; A. B. Hillman, engineer maintenance of way, Belt Railway of Chicago, was advanced from second vice-president to first vice-president; E. L. Banion, roadmaster, Atchison, Topeka & Santa Fe, was elected second vice-president; F. O. Whiteman, Chicago, who was appointed secretary during the year by the Executive committee to fill the vacancy created by the death of C. A. Lichty, was elected secretary; and E. E. Crowley,

roadmaster, Delaware & Hudson, Albany, N. Y., was re-elected treasurer. In addition, three directors were elected—C. M. Burpee, managing editor, Railway Engineering and Maintenance Cyclopedia, Chicago; R. L. Fox, roadmaster, Southern, Alexandria, Va.; and P. Chicoine, roadmaster, Canadian Pacific, Vaudreuil, Que.

The report of the secretary showed 789 members of the association in good standing, which includes 104 new members taken in during the year.

C. E. Johnston Opens Convention

In his address of welcome, C. E. Johnston, formerly president of the Kansas City Southern and for many years directly in charge of maintenance of way work on that road, first spoke of the important place that roadmasters hold in the scheme of rail transportation and of their increased problems, and then called upon them to resist those governmental and other influences which, he said, are tending toward the socialization of industry, including the railways, and thus, so far as railway labor is concerned, are "killing the goose that laid the golden egg." Opening up the latter train of thought, he said, in part:

"You men hold responsible positions in the official railroad organization. You are a part of management, and management is depending upon you to do your part—to help hold together the privately-owned and operated railroad systems of our country. What is, and has been, going on in this country cannot but result in throwing our railroads into ownership and operation by the government. From the standpoint of the present organizations of the railroads, this simply means 'to kill the goose that laid the golden egg.' We simply cannot let such a calamity happen. We must set ourselves for a fight to a finish against it, individually and collectively."

Referring to the tide of socialistic sentiment in the country, the government's spending policy for "work not performed, for crops not raised and for political purposes otherwise," and the "appalling national debt that continues to mount," Mr. Johnston said: "What is going on in front of our very eyes is positively not to the best interests of the rank and file in the long run. They are the ones to suffer if we kill the goose that is laying the golden egg—now providing us all with income. If by taxation and other restrictions, industry in our country, including the railroads, cannot operate at a profit, there is created a condition such as we have been passing through for several years, the effect of which is still strongly felt. Its continuation cannot be justified from any standpoint of sound reasoning."

Speaking of organized labor—organized for mutual benefit and in a common interest of labor and management, he said:

"We will all agree that it has a proper place in the picture. It is that operation of labor unions for the benefit of racketeers that creates or foments discord. This octopus thrives when there is public unrest and uncertainty and a disturbed state of mind among our people. We must never overlook our duty to deal with labor on an absolutely fair and sympathetic basis. We must at all times recognize sincerity of purpose and conscientious effort and extend to our men and their loved ones that measure of human sympathy which will encourage and merit their loyalty and insure to them regular employment under the best possible conditions. This done, managements may reasonably expect a fair measure of return in loyalty, in support of its efforts to operate successfully."

In closing, Mr. Johnston said that notwithstanding the ominous conditions confronting the country and the railroads "we have many reasons to feel encouraged over our outlook. I am not one who thinks we will fail in our effort to maintain private ownership and operation of our railroads. We are on the side of right and will succeed ultimately in our undertaking."

Greetings from A. R. E. A.

Greetings from the American Railway Engineering Association were extended to the convention by H. R. Clarke, its vice-president, and engineer maintenance of way of the Chicago, Burlington & Quincy, who represented President G. S. Fanning, president of the A. R. E. A. Mr. Clarke paid tribute to those who founded and who have carried on the activities of the association through its 57 years of service to the railways, and exhorted the members to a continuation of this effective work in the days which lie ahead. He said in part, as follows:

"The fact that this is the fifty-fifth convention of this association is a tribute to the vision and the wisdom of the men who founded it. They recognized a need and took practical action to fill it. It is a tribute also to the ability and loyalty of all the men who have carried on during these last 57 years. And the fact that interest is still keen and that the association is more active today that ever before proves clearly that there is work still to be done and problems still to be solved.

"I suspect that many years ago, when the problems were little iron rails, poor ties and no ballast, the men on the firing line thought the going was hard—and we will agree that it was. Certainly the last 10 years have not been easy. With competition subsidized and assisted by public money, much of it contributed by the railroads themselves; with unreasonable and unjustified demands made by many so-called labor leaders; and with constantly rising taxes, all on the one hand, while at the same time affording the best, fastest and most reliable service that the people have ever had, even those of us who have been doing our best to help bring this about wonder how it has been done. And we are still in the thick of the struggle, but I have faith to believe that there are better days ahead, although it may not be until we have passed through even more difficult times.

"In the effort to maintain the fixed properties of the railways to the standards established and required with the funds available, there are three associations closely allied: The American Railway Engineering Association, the American Railway Bridge and Building Association, and your association. Each of these is working in a different field with a definite and distinct job to do. A man joins one of these groups and works in it because he is interested in the future of the railroad industry as a whole, in the progress and development of the particular department to which he is giving his best effort, and in his own advancement in his chosen work. He knows that all three of these interests can be served best by increasing his own knowledge and his ability to deliver the goods. Knowing that one gets in proportion as he gives, you are here today and for the remaining days of this convention to contribute all that you have of knowledge and experience, and in that way secure the greatest possible benefit for yourselves and your respective railways."

From the B. and B. Association

A. E. Bechtelheimer, assistant bridge engineer of the Chicago & North Western, and president of the American Railway Bridge and Building Association, brought

greetings to the convention from that associaton, and in the course of his remarks spoke of the close co-operation that has always existed between "our associations" and of their great value to those engaged in roadway and bridge and building work. He said in part:

"Probably no two associations have more in common than do the Roadmasters and the Bridge and Building associations. Members of these two groups are closely allied in their work in the office and in the field, and this close cooperation means a great deal in the operation of the railroads.

"Your association, organized in 1883, is a little older than the Bridge and Building Association, which was organized in 1891, and will soon begin its fiftieth year of activity in the railroad field. I know of no occasion throughout all of these years when there has been anything but the friendliest feeling between these associations, and while each has its distinctive field of service, yet, collectively, they continue to work as a unit in the service of the railroads of the country. When two bodies of men such as we represent can go along and cooperate with each other for nearly 50 years as we have done, I think we may be pardoned if we each feel pride in our achievement.

"Associations like the Roadmasters and the Bridge and Building associations afford opportunity for men of like interests and similar work to meet for the exchange of ideas and for the discussion of their common problems. One man cannot know it all, at least in these days, because things are changing so rapidly and in many respects so completely. It is a very alert man, indeed, who can choose the right side of everything new the instant that it is presented. So we must be constantly in close contact with others who are faced with similar problems to insure our being kept on the right track. There is also great inspirational value in joining hands with other men confronted with problems similar to our own."

Speaking for the Track Supply Association, R. J. McComb, its president, commended the roadmasters upon arriving at their fifty-fifth annual convention, and extended to them a cordial invitation to view in detail the exhibit presented by his association.

President Sitton Reviews Work

In his presidential address, President G. L. Sitton spoke of the many accomplishments of the association in the past, but urged the members to still greater effort in the light of what is expected of them from railway managements and of the unpredictable problems which lie ahead. He said in part, as follows:

"This is the fifty-fifth time, beginning with the year 1883, that this association has met in convention. The accomplishments of the association in the past have been many, and they have been very valuable to the railroads. Its objective has always been to meet and discuss questions pertaining to maintenance of way and to raise the standard of work committed to the charge of its members. I like this objective because it implies that we must never become satisfied with existing standards, but must ever strive to improve them.

"I am sure that those who organized the association and adopted its objectives had no idea what drastic changes would take place in railroading in 57 years, but they did have the foresight to realize that the task of the association would never be finished. I pay tribute here to all those fine men who have been active in building up this association and, in passing on, have turned over to us the task of carrying on from where they left off. May we ever be guided by their fine examples.

"We would all like to look into the future, even if only a few years ahead, to see what is coming. But even a far-sighted mind cannot pierce the black clouds of war and destruction and see what is on the other side. In fact, as a nation, we act as if we could not read the handwriting on the wall, even though the letters are as high as box cars. We are in the grip of complacency, which I have come to consider the most dangerous word in our language. However, in spite of the trend of national thought and action, or, if you prefer, the lack of same, I think that those in our group can agree that if we use the present to the best advantage, we will be better prepared for the future no matter what it may hold in store."

Continuing, Mr. Sitton reminded those present that the convention represents a large investment on the part of the railways, and said that railway managements are entitled to a large return on this investment. Then, looking beyond the end of the meeting, he pointed out that the value of the convention will not end with its adjournment, but will continue as the things learned are discussed with those back on the line and are put into practice.

Slow Orders—Under Present-Day Operating Conditions

A report on Slow Orders, which was prepared by a committee of which E. L. Banion, roadmaster, Atchison, Topeka & Santa Fe, was chairman, approached the problem from the conflicting standpoints of carrying out maintenance of way work efficiently and at the same time insuring safe train operation in the light of present-day operating conditions. Until the "Super-Trains" were placed in high-speed passenger service, the report pointed out, slow orders were assumed to be a necessary evil, whereas today, the one objective with which all departments are in accord is to eliminate delays of all kinds.

While holding that the maintenance of way forces should make every effort to eliminate slow orders where possible, with safety, and that much can still be done in this regard, the committee made it plain that a certain number of slow orders, both temporary and permanent, must be expected. It pointed out that present-day high-speed trains came into operation at a time when general maintenance was near its all-time low, and when money for curve revisions and reductions was scarce, both of which factors have had an effect upon the speeds at which trains can be operated safely. It conceded that the track maintenance situation had improved materially and that large sums had been spent on certain lines handling high-speed trans-continental trains to elminate the most restrictive slow orders due to curves and grades, but pointed out that the outlook for an increase in business sufficient to make possible the elimination of all slow orders and speed restrictions is remote.

The committee found that train delays are costly to both the maintenance of way and operating departments. Delays and slow orders, it pointed out, tend to make necessary the further increase in speeds when the way is clear, which not only creates added damage to the track structure in the form of irregularities of line and kinked and broken rails, but which also cause poor riding track generally. From the standpoint of high-speed train operation, it showed that drastic reductions in speed are expensive, the cost varying with the locomotives, the number of cars, the tonnage, the speed and whether the grades are level, ascending or descending. In this regard it said:

"The rate of acceleration is slow above 45 miles an hour and it is greatly reduced above 60 miles an hour.

Trains operating at high speeds require much more power than at medium speeds. Likewise, more power is required to reach a high speed than is required to maintain that speed. Figures are available showing that certain trains require a distance of as much as 30 miles to attain their top speed. Under such circumstances, frequent slow orders or speed restrictions not only cause delays in a hard-to-make schedule, but are likewise costly in terms of energy expended to regain the top speed and may result in total inability to maintain such a schedule." Accompanying this part of its report, the committee presented graphical illustrations of brake deceleration and train acceleration on level, 0.5 ascending and 0.5 descending grades, which showed the time lost when high-speed trains are required to reduce speed in compliance with slow orders.

Pointing out that specific rules govern the action of maintenance men in the use of slow flags and speed restrictions, and that under these rules the safe passage of trains is of paramount importance, the committee devoted much of its report to the specific problems of maintenance forces in the proper use of slow orders to afford maximum train protection with minimum delay to trains and work operations. In the first place, it said that, to be effective, slow orders must be clear and definite as to the location affected, and that after they have been placed, they must be rigidly enforced. Slow orders, the prospect of observance of which is doubtful, it cautioned, are worthless, and should not be tolerated. At the same time, it said that it should not be necessary for foremen and others, in placing slow orders, to use an unwarranted margin of safety to protect against the possibility of enginemen exceeding the restrictions. Slow orders should allow the maximum speed possible, it said, and their strict observance should then be assured.

Continuing its report, the committee discussed the use of slow-order protection in connection with a number of routine maintenance operations, including rail laying, tie renewals, surfacing, shimming heaved track, curve and grade revisions, etc. While pointing out that heaving track cannot be avoided in many parts of the country during the winter months due to the freezing of water in the ballast and subgrade, the committee said that much heaving track is preventable, and in this connection stressed the importance of adequate drainage. Concerning new work coincident with curve and grade revision, it saw, in the light of present-day earth-moving and compacting equipment, little justification for continuing the former common-place practice of requiring slow initial operation over new work, with gradually increasing speed over a period of several months. With present-day equipment, it said there is small excuse for any allowance for settlement if the earthwork is handled in line with modern earth-moving standards. The added expense incurred in such construction, it continued, is justified, rather than to continue slow orders on the new track for an indefinite period.

Turning to other factors which have had an important bearing in reducing the number of slow orders made necessary by maintenance of way operations, the committee cited the use of large mechanized extra gangs for track work, which, it pointed out, reduce the number of train delays by shortening the period over which work is carried out; the laying of rail in multiple-track territory on "dead" track, which permits unrestricted train operation; and the use of off-track equipment.

In conclusion, the committee said:

"Present-day high-speed train schedules in both passenger and freight service demand that slow orders be kept to a minimum at all times if these schedules are to be maintained. The fact must not be overlooked that such high speeds must be safeguarded by a higher degree of maintenance, better supervision, closer co-operation and better equipment.

"At locations where physical conditions will not safely permit top speed, permanent slow signals must be maintained, and slow orders must always be resorted to as a means of insuring the safe passage of trains.

"Since slow orders are occasionally necessary, conscientious observance by enginemen must be insisted upon rigidly—strict observance demanded and secured by frequent tests, employing discipline when required. There should be no tolerance."

Discussion

The discussion on this report emphasized the importance of watching for and correcting promptly slight irregularities in high-speed tracks, the convention being reminded that the impacts of equipment vary approximately as the square of the speed. It also condemned the practice of placing unduly restrictive slow orders on track in the fear of disregard on the part of enginemen, it being the feeling that speed restrictions should be set up in exact accordance with existing track conditions, and that any violations on the part of enginemen should be reported to insure strict compliance in the future.

Another point emphasized in the discussion dealt with the speed for which detours or shoofly tracks around construction projects should be built, especially highway-railroad grade separations. This brought out clearly a marked general tendency to construct these temporary tracks for much higher speeds than formerly, one road having adopted a policy of constructing all shooflies on both main and branch lines for normal train speeds in the territory involved and thereby eliminating all delays to trains. It was admitted that the higher standards of construction necessary for increased speeds increase the cost of shoofly construction, but it was the consensus that in most cases this is not excessive and is justified where important trains or heavy traffic is involved.

It's Results That Count

Speaking before the convention Wednesday morning, A. E. Perlman, engineer maintenance of way of the Denver & Rio Grande Western, countered the oft-repeated statement that the railways and their methods lack initiative and are out-moded, citing many examples to the contrary and pointing out, for example, that modern mechanized rail-laying methods on the railways are as minutely organized to do a job in the field as is the assembly line in a modern automobile plant. He said in part, as follows:

The operating expenditures for maintenance of way and structures during the years 1920 through 1929 amounted to more than eight billion dollars. In the last ten years, you have cut these expenditures very nearly in half. Statisticians would say that this reduction was accomplished only through deferring a large portion of your work, but I have no fear in saying to you that the railroads today are in better shape to handle their traffic at higher speeds than they were ten years ago. Speeds of freight and passenger trains and the railroad safety records bear witness to this statement. If these people could make an intimate study of your properties on the ground rather than basing their conclusions on statistics, they would find revolutionary changes on every inch of the properties you maintain.

Let me review briefly some of these results which are so clearly found in studying the men, methods, and materials on our railroads today. In picking the men who will some day replace us, it is not a relative or

friend who receives first consideration; it is the man who passes the best test for physical and mental fitness, whose background of education and experience has been fully investigated. He is given a thorough apprenticeship to insure proper knowledge of modern methods and machinery. He is taught to plan his work and co-operate with his associates. Underlying principles as well as their practical applications are taught him. As he progresses, he is given an understudy to train so that he will have some one to fill his place when he is promoted.

Expenditures are budgeted and work is programmed, thus stabilizing employment. And to the credit of progressive railroad management, let it be said that they would rather save the dollar at the end of the year than have the satisfaction of a good record on paper during certain months. Machine methods have added to the safety, economy and efficiency of this programming. We have heard much of the Ford assembly line, but the mechanized steel gang, with machines for taking out the old bolts, pulling the spikes, throwing out the rail, adzing the ties, placing the new rail and bolts, and driving the new spikes, is as minutely organized to do a job in the field as is the assembly line in the factory.

Improvement in materials has been a major factor in the reduction of costs. Railroads use a greater variety of materials than any other industry. The list of materials comprises more than 70,000 items. For that reason, these improvements have had a far-reaching effect. The inspection of materials has been aided greatly through use of the Magnaflux and X-Ray. Rail and fastenings have been given searching study to secure improved design and longer life. Many alloys have been studied in an effort to increase resistance to both fatigue and corrosion. Extensive research has been carried out in the determination of the causes of transverse fissures, resulting in recent improvements in manufacture to help eliminate them. The extended use of treated timber has resulted in vast economies and a reduction in bridge maintenance is due to the recent development of corrugated metal pipe of larger diameter than available heretofore.

These are some of the results achieved during the last decade. What of the next? How can we continue to make progress? First again, men must be considered, for it is men who adopt the new methods and materials. Through the co-ordination of effort of men in the field and office and laboratory will come the perfection of these new methods and materials, superior to any we have ever known. The railroad getting the best results will be the one on which the men work with an open mind, receptive to the ideas of laborers, designers, or shippers, and constantly alert to improvements emanating from other industries.

It is results that count, and subsidized competition has never yet matched your ingenuity. To keep faith then, let us seek to continue through the next decade the amazing progress of the years just past. Let us keep the railroads dominant in transportation and in the progress of all American industry. Then in 1950, with the railroads still on top, we can all say, "I've done my share."

Welding—Its Uses in Track Work

A committee, of which R. L. Fox, roadmaster, Southern, was chairman, reporting on the various applications of welding in track work, saw widespread opportunities for the use of oxy-acetylene and electric arc welding by track forces, with resulting large economies through the longer service life to be attained from track materials and tools. At the outset of its report, the committee said that in order to effect reductions in operating and maintenance costs, the railways should give thorough consideration to the possibilities of welding and its application in track work, pointing out that the life of numerous items of the track structure have been doubled through repairing or building them up by electric or acetylene welding.

The committee listed the more common welding operations in maintenance of way work as the rebuilding of frogs and crossings, building up switch points, welding battered rail ends to their original contour, reforming rail ends, welding new shoulders on tie plates, welding rail bonds, reforming or building up worn angle bars, end-hardening or heat treating rail, making compromise joints, welding switch stands, building up "engine-burns" in rails, and welding rails together to eliminate joints, the latter practice, it pointed out, being especially desirable through highway or street crossings, depot platforms and tunnels. Other uses of the welding and cutting torch in track work, it said, include the cutting of bolts in rail joints, cutting rail, repairing tie tamper tools, making guard rails for crossings, making repairs to track equipment, welding frog plates, and hard-surfacing steam shovel teeth, clamshell buckets and other equipment parts subject to hard wear.

Based upon the experience of the roads represented on the committee, as well as that of other collaborators, the report was a virtual handbook for track supervisory officers and welders in the accepted practices as to the classes of welding that can be carried out successfully and the procedure to be followed in each case for best results. In its detailed reference to the building up of rail ends to compensate for batter, which practice, it said, was being carried out successfully by both the acetylene and electric arc methods on a large scale, increasing materially the service life of rail, the committee said that the cost per built-up joint, employing the oxy-acetylene method, including both labor and material, as reported by 10 different roads, ranges from 63 cents to $1.50.

Referring to the reforming of rail ends, a process being used by a number of roads wherein much or all of the end batter is removed by forging the head metal upward under proper heat and hammer blows, the committee said that batter of $\frac{3}{32}$ in. or less can usually be overcome by this method without the use of any filler rod. The average cost of reforming rail ends it reported as varying from 45 cents to 90 cents, both figures including labor and material. The committee pointed out, however, that joints finished by the reforming method should be given a heat treatment to obtain additional hardness.

Continuing with the subject of heat treatment, the committee pointed out that this can be applied effectively to new rails not already heat treated, as well as to rails whose ends have been reformed or built up. To indicate the results that are being secured through the heat treatment of rail ends, it cited the results of a comparative test that had been made between 220 heat-treated joints and 220 non-heat-treated joints. After six years in service, it said, in which 1,460,000,000 gross tons had passed over the joints involved, 83 of the heat-treated joints had an average batter of 0.026 in. and 5 had been chipped to an average length of ½ in., compared with 122 non-heat-treated joints which had an average batter of 0.047 in., and 34 chipped joints averaging 1⅛ in. in length. The average cost of heat treating a joint it reported as ranging from 28 cents to 75 cents.

Discussion

A prolonged discussion following the presentation of this report showed a distinct difference of opinion as to

the practicability and safety of building up switch points in track and the welding of driver burns, several pointing out that these practices were common on their roads, while others stated that they were either prohibited or strictly limited. The proponents of building up driver-burned spots cited the advantages in restoring the running surface of the rails through welding; they admitted that the rail at the restored spots was, unquestionably, not as strong as new rail, but contended that the rail at the built-up spots was stronger than at driver-burned spots not welded. There was a general feeling, even among those who have practiced the building up of burned spots most extensively, that carefully conducted tests should be made to determine the relative strength of burned rails, built-up burned rails and normal unburned rails. At another point in the discussion a relatively recent practice of taking the downward bend or droop out of angle bars in track by heating them with the acetylene torch was described in detail, it being brought out that several roads had carried out this practice extensively during the last year with what appears to be complete success.

The Maintenance of Gage Under Today's Higher Speeds

The report on this subject, which was prepared by a committee of which W. E. Heimerdinger, superintendent, Chicago, Rock Island & Pacific, was chairman, stressed the importance of correct gage to any well-maintained track, and especially under today's higher speeds of operation. Irregularity in gage, it pointed out, as in the case of irregularity in surface or alinement, causes a certain amount of shock to be transmitted to moving train equipment, which, in turn, is transmitted back to the track, with a tendency to further increase irregularities in gage, surface and alinement. Concerning the extent of this shock, the committee reminded members of the association that it varies directly with the square of the speed of the train, being more than twice as great for a train moving at 85 miles an hour as for one moving at 60 miles an hour, and four times as great in the case of a train speed of 100 miles an hour as for a train speed of 50 miles an hour.

Discussing the subject under the three main heads of causes, effects and means of correction, the committee said in part, as follows:

"If good workmanship is not obtained at the time that rail is laid, particularly in securing accurate gage, the result will be poor riding track and increased maintenance cost. It is difficult to maintain track in good line and surface that is out of gage. The time to obtain good gage is when the rail is laid; and then it should be maintained.

"In an effort to avoid train delays under present high-speed operation, trains are frequently permitted to move over newly-laid rail at too high speed before the tie plates have become properly seated. This should be avoided, because the maintenance man is required to live with the bad conditions resulting after the rail is laid.

"The condition of the track structure bears a very important relation to the maintenance of proper gage. For example, the poorer the ties, the less their spike-holding power. Furthermore, track that is out of line naturally will permit a greater thrust on one rail, which has a tendency to loosen the spikes, causing the gage to widen. The same is true where track is out of surface.

"Excessive lateral play in equipment has a very direct bearing on gage conditions due to the increased lateral thrust against the rail. Where this condition exists and where rail on one side creeps more than on the other side, ties will slew. Where slewed ties exist, incorrect gage results."

In concluding its report the committee said that good ties, proper anchoring of the rails, the use of double-shoulder tie plates, accurate gaging tools, and good line and surface, all contribute to proper gage conditions. Other contributing factors, it pointed out, include the use of gage rods in special cases, as well as adjustable gage plates at switches; the use of additional spikes on curves; the widening of gage on sharp curves; the maintenance of the superelevation of curves in relation to the speed and tonnage of trains; the use of additional spikes for anchoring tie plates; rail lubrication to prevent flange wear of the rail; the proper driving of spikes up against the rail and down tight; and frequent checks as to prevailing gage conditions.

Discussion

The discussion of this report dealt largely with the importance of obtaining good gage when rail is laid. It brought out the tendency of rail laid with unbalanced tie plates to develop tight gage under traffic and the difficulty of obtaining uniform gage when rail is laid on canted tie plates, and stressed the importance of checking relay work after the rail and the plates have settled under traffic to correct any variations in gage.

I. B. Tigrett Heads G. M. & O.

(*Continued from page 398*)

While he had been interested in the railroads of the south during these years, it was in 1912 that he became a public figure in railroad development. In this year he was made president of the Birmingham & Northwestern, a position he held until 1927 when the road was merged with the G. M. & N.

It was during this early part of his career that he first dreamed of the union and expansion of a number of the railroads of the south to form a larger system. In his early life he watched the construction of pioneer railroads and later witnessed Mobile's attempt to establish a northwesterly route in 1889 by the formation of the Mobile, Hattiesburg & Jackson; the leasing of the Gulf & Chicago to the Mobile, Jackson & Kansas City, which had acquired the Kingston & Central; the extension of the Mobile, Jackson & Kansas City to Newton, and from Mobile to Middleton, Tenn., in 1906; the sale of the Gulf & Chicago and the M. J. & K. C. to the New Orleans, Mobile & Chicago in 1909; and the formation of the G. M. & N. in 1916 to take possession of the property of the latter railroad. In 1919, he was elected president of the G. M. & N. Since 1933, he has also been president of the New Orleans Great Northern. Since 1920 he has also been president of the Mercantile Union Trust Company, Jackson, Tenn., and president of I. B. Tigrett & Co., and since 1934, president of the Tennessee Securities Company. Mr. Tigrett has been treasurer and a trustee of Union University since 1904.

Under Mr. Tigrett's leadership the G. M. & N. has aggressively fought competition. In 1930, he conceived the idea of co-ordinated rail-highway service and has since pursued a policy of affording this dual service throughout his territory. He also has been a pioneer in streamlined train operation, having placed the first Rebel in operation between New Orleans, La., and Jackson, Tenn., in July, 1935.

Passenger Traffic Officers Discuss Competition

Proper use of new services to increase revenues also reviewed at Canadian meeting

THE constant and growing threat of airplane competition for first-class travel and of buses for coach passengers were discussed in detail at the 82nd annual convention of the American Association of Passenger Traffic Officers. President C. C. Bonter, passenger traffic manager, Canadian Steamship Lines, presided, assisted by Vice-President R. Thomson, passenger traffic manager, Chicago & North Western, and Secretary B. D. Branch, general passenger agent, Central of New Jersey. The first day's sessions were held on the St. Lawrence aboard the S. S. Tadoussac of the Canada Steamship Lines and the second day's sessions at the Manoir Richelieu, at Murray Bay, Que.

President Bonter opened the meeting with a brief message in thanks to the passenger officers and citizens of the United States in general for their material and more particularly their moral support of Canada in the prosecution of the war. U. S. Consul-General Homer Byington explained how the state department had arranged visas and identifications so as to permit the necessary unhindered crossings of the border by railway officers and employes in the course of their duties.

The reports of Committee Chairman W. M. Fenwick, passenger traffic manager, Missouri-Kansas-Texas, and L. A. Blatterman, general passenger agent, Wabash, on association ticket paper and official digest of fares and divisions were accepted without discussion. Chairman C. A. Fox of the Central Passenger Association then submitted a book of standard forms of interline tickets which covered the field thoroughly and which constituted the first such project attempted in more than 20 years.

Chairman C. C. Howard, passenger traffic manager, Erie, reported that it was the consensus of the opinion of his committee that the times were not propitious for carrying out a program for a national railroad week.

Air-Line Competition

A committee on commercial air development of which C. E. McCullough, general passenger agent, Pennsylvania, was chairman rendered the following report:

Civil aviation in the United States strengthened its quick strides during 1939 and made impressive gains on all fronts. Scheduled air transportation, private flying, and production of aircraft for civilian use all established new records. Scheduled air carriers achieved remarkable increases in traffic. The number of passengers carried each month throughout the year ran well in excess of the same months of any previous years. To a concurrent safety record unsurpassed in the annals of aviation, should go a large share of credit for the increased business of the airlines. At the year's end, American operated airlines were flying 85,000 miles of routes, over half which were territorial and foreign routes. The services crisscrossed the continental United States and extended north into Canada; south throughout the Caribbean, to Central and South America; west to Hawaii and the Orient; and east to the Old World. Other lines furnished important service between otherwise almost inaccessible regions in Alaska.

Timetables for alternate aerial routes across the North Atlantic became a reality in June, 1939, when airmail schedules to Southampton, England, and Marseilles, France, were announced by the Post Office Department.

At the end of the year 1939, there were 2,280 airports and landing fields in the United States, divided as follows:

Municipal	643
Commercial	456
C. A. A.	266
Miscellaneous	915

There were 31,264 pilots holding various grades of Civil Aeronautics Authority certificates. This represented an increase of 37 per cent during the year 1939 and an increase of 96 per cent in the 3-year period since January 1, 1937. These figures do not include student pilots, among whom are the participants in the Authority's current nation-wide civilian pilot training program. A total of 3,715 aircraft were manufactured in the United States for domestic civil use during 1939, according to figures compiled by the Civil Aeronautics Authority. This represents an increase of 104 per cent above the corresponding production in 1938, when 1,823 such aircraft were produced. The small so-called "light plane" accounted for by far the greatest part of the increase.

The statistics shown below cover domestic air carrier operations for calendar years of 1939 and 1938:

	1939	1938	Per cent of increase
Revenue miles flown	82,571,523	69,668,827	18.52
Revenue passengers carried	1,717,090	1,176,858	45.90
Revenue passenger-load factor (per cent)	56.10	50.18	11.80
Express carried—pounds	9,514,299	7,335,967	29.69
Mail pound-miles flown	17,169,782,735	14,845,719,671	15.65

A number of the air lines have, for some time past, had an arrangement for plane-auto service, similar to the rail-auto service of the railroads, but the Air Transport Association advise that it will be universally adopted by all air lines at an early date. The air lines will announce at an early date the travel-credit plan now in effect by all railroads. The final details are being worked out at the present time with the Travelers Credit Corporation, with whom the railroads are associated.

Effective June 30, 1940, the Civil Aeronautics Authority, as an independent regulatory body, went out of existence and became the Civil Aeronautics Board. The Board and its functions were placed within the framework of the Department of Commerce; but all of its functions are to be exercised with complete independence of the Secretary of Commerce.

Hearings are still going on before the U. S. Civil Aeronautics Board in connection with the 15 per cent deduction in one-way air fares allowed to holders of cards under the air travel credit, or so-called "scrip" plan. Hearings have been held since October, 1939, and while it seems T&WA, Inc., has taken a stand with the travel agencies to fight the plan, practically all the other air lines are defending it. Preliminary briefs were filed

with the Board on July 22 by counsel for the air lines. At this time, of course, no one can even venture a guess as to the ultimate decision which will be handed down by the Civil Aeronautics Board, but it may be assumed that since preliminary briefs were filed as late as July 22, the decision will not be made for quite some time.

In closing this report, we wish to include the following comments, which, in our opinion, are of general interest to all railroad passenger traffic officers:

1. In strange contrast to the situation faced by the railroads in connection with rail equipment, the expansion of productive plants for aircraft, under national defense plans, will very materially strengthen the position of commercial air lines, and ultimately enable them to buy planes and parts at much lower prices than at present.

2. There are definite indications that the air industry is looking forward to, and making preparations for, a greatly increased handling of mail and express. A drive to that end, and the possible handling of all first-class mail by air, are in the plans.

3. The advertising campaigns of the air lines are outstanding. In the opinions of many, they are outadvertising the railroads. The institutional advertising under the auspices of the Air Traffic Conference has been exceptionally fine, stressing, as it does, in a distinctly "sales" way, the attractions and advantages of air travel. This is somewhat in contrast to the institutional advertising of the American Association of Railroads.

4. The steadily growing increases in applications to the Civil Aeronautics Board for extensions of air routes and for new routes, and the attitude of the board toward granting many of them, is a strong indication of the trend and the increased competition with which the railroads are being, and will continue to be, confronted.

5. The Air Traffic Conference of America is accomplishing significant results in providing a traffic forum for all air lines, and in going beyond purely tariff and self-regulation questions. Sales development, the filing of joint and consolidated tariffs for all domestic air lines, and the simplicity of those tariffs, are outstanding.

6. The stimulation of aircraft manufacture and the demands for greater and more airports and landing fields in connection with the national defense program, are bound to have great psychological effect upon the public attitude toward commercial aviation. This is another warning to the railroads of still greater and ever increasing competition.

To conclude this report, we are showing below domestic air carrier operations statistics for the first six months of 1940, with per cent of change over similar period of 1939, which will indicate the continuous upward trend of air lines' traffic:

	Revenue Miles Flown	Per cent change over 1939	Revenue Passenger Carried	Per cent change over 1939	Revenue Passenger Load Factor (per cent) Jan. 1940	Jan., 1939
January, 1940	7,271,154	33.34	136,282	69.62	50.14	46.76
February, 1940	6,672,914	32.62	126,840	74.96	Feb., 1940 51.36	Feb., 1939 45.64
March, 1940	7,930,038	29.09	178,332	67.69	Mar., 1940 59.28	Mar., 1939 52.34
April, 1940	8,331,759	32.93	206,407	73.91	Apr., 1940 61.37	Apr., 1939 54.25
May, 1940	9,266,687	30.11	238,300	59.62	May., 1940 60.04	May., 1939 54.83
June, 1940	9,549,109	32.94	265,297	61.20	June, 1940 64.01	June, 1939 59.17

The report produced a lively discussion participated in by L. W. Landmann, retired general passenger traffic manager, New York Central; E. P. Burke, passenger traffic manager, Pullman Company, and H. F. McCarthy, passenger traffic manager, Boston & Maine. The latter recommended that the new services and new trains be exploited to the utmost to tap new markets to offset any possible traffic losses to the planes.

Bus Competition

P. J. Neff, assistant chief traffic manager, Missouri Pacific, presented the following report on bus competition:

The general summary of operations for the year 1939 compared with 1938 shows that the total operating revenue of the 197 carriers in this class reported revenue of $143,108,224, or an increase of 11.8 per cent over the year 1938, and that these lines had a net operating revenue of $20,249,003. These companies reported operations over 187,279 miles of highways and a total operation of 555,864,094 bus miles, also about 14,000,000 bus miles in charter or special service, and the statistics also show that about 232,000,000 revenue passengers were carried—an increase of about 30,000,000 over the year 1938. From our previous reports you will recall that the industry showed a corresponding increase in 1938 over the year 1937, so that in general it may be stated that the bus industry has continued to have a substantial growth and that the bus lines are handling approximately 40 per cent of the total rail and bus business.

Reports from manufacturers indicated that bus lines purchased a total of 2,415 new buses in 1939, a large percentage of which were air-conditioned. Aside from the continued increase in the number of air-conditioned buses in service, reports indicate that there are now about 423 buses propelled by Diesel motors. 481 buses used hydraulic drive, electric shifts or automatic transmission. The majority of cars now purchased have their power plants either in the rear or amidship under the floor, the result being to increase the passenger carrying capacity. There has also been a tendency toward carrying baggage in compartments either in the rear or under the car in place of racks on the top. The best available information as to the purchase of bus equipment by railroads or their subsidiaries is found in the Annual Statistical and Outlook Number of the *Railway Age* issued January 6, 1940. The railroads in general continue to expand their use of bus equipment as a substitute for rail service or in coordination with rail service.

A large number of new bus stations were constructed during the year, many of them by railroad controlled lines, with a decreasing number of ticket offices and stations operated by private individuals on a commission basis. All of these things tend to improve the quality of bus transportation and, of course, results in public approval and increased revenue to the bus lines.

C. L. Hunter, chairman, Trunk Line Passenger Association, and H. W. Siddall, chairman of the Transcontinental and Western Passenger Association, discussed the train-cab, train-auto and the credit plans. All of these are being worked out satisfactorily, although it was the consensus of opinion that they need greater

publicity on the part of the railways before they can attain the success they deserve.

In a discussion of the new coach-sleeper car service led by E. P. Burke, passenger traffic manager, Pullman Company, and participated in by A. Cotsworth, passenger traffic manager, C. B. & Q., and T. H. Gallaher, passenger traffic manager, A. T. & S. F., it was explained that the public reaction to these services was entirely favorable. They have been in transcontinental service on a once-a-week basis, but even so have shown an average occupancy of 38.5 passengers with a total capacity of 45. On September 9, they were put in daily overnight service on the A. T. & S. F. between Chicago and Kansas City, and this experiment is to be carefully watched and analyzed.

H. F. McCarthy, passenger traffic manager, B. & M., explained the new joint rail-air tariffs in effect on his railway and a considerable opposition to such practices developed under the leadership of E. N. Thorne, general passenger agent, B. & O. A distinct cleavage of opinion was apparent throughout the meeting as to air line competition and what to do about it. J. W. Switzer, passenger traffic manager, N. Y. C., pointed out the differences in merchandising as between the airways and the railways and suggested the need for an examination and modernization of merchandizing methods.

Red Cap Fees Not Popular

E. E. Pierce, general passenger agent, N. Y. C., and T. M. Hays, passenger traffic manager, Wabash, led the discussion on the red cap fee system. It appears that the new system has, on the whole, produced an unsatisfactory public reaction, largely because of lack of uniformity at various stations. A new plan, providing a graduated scale of charges, is under consideration.

A complete presentation of the proper means of launching a new train to obtain the most favorable public reaction was a feature of the meeting. This took into consideration all factors from the inception and traffic study, the equipment and train personnel to typical advertising programs and means for judging the results.

The spirit of co-operation and kindred interests between Canada and the United States was manifest throughout the convention and this was the keynote of several Canadian speakers who addressed the association briefly at Murray Bay, Quebec, and Montreal, including W. H. Coverdale, president, Canada Steamship Lines, who delivered the principal address at Murray Bay.

Robert Thomson, passenger traffic manager, Chicago & North Western, was elected president for the coming year. J. V. Lanigan, passenger traffic manager, Illinois Central, was elected vice-president, and B. D. Branch, general passenger agent, Central of New Jersey, was re-elected secretary-treasurer.

THE GOVERNMENT OF GREECE has temporarily assumed control of the 505-mi. Piraeus-Athens-Peloponnesus railway. The move, which is technically a receivership, follows several years of adverse financial conditions during which the line obtained grants and loans from the government. The government will take over all rolling stock and motor transport vehicles of the company and will operate the system with its existing staff until the property is sold at an auction at a date to be determined upon later. Should no satisfactory price be offered, the government may undertake operation permanently. In an effort to establish the line on a paying basis, the Greek government in 1937 aided the company in purchasing a number of competing bus and truck lines which it subsequently co-ordinated with its railroad services. This move, however, did not bring the financial relief which was anticipated.

Truck Requirements for High-Speed Freight Service

(*Continued from page 393*)

if you run fast enough you jump over the low spots in the track.

It is evident that the majority of the trucks were entered in this test more on faith in their performance at high speed than on actual knowledge of it. No particular criticism can be attached to this because there was not a great amount of knowledge of the condition encountered in high speed service prior to the running of these tests. It should be remembered that failure of any of these trucks to perform satisfactorily at speeds as high as 85 m. p. h. does not condemn them for service at lower speeds. The dividing line seems to be about 60 m. p. h.

One of the outstanding facts developed in these tests is that snubbers which have proved to be the solution of the problem of controlling oscillation at speeds below 60 m. p. h. are of little, if any, value at speeds above 60 m. p. h. The reason is easy to understand. The oscillation that occurs at speeds below 60 m. p. h. builds up from small impulses regularly repeated, while the troubles experienced at speeds above 60 m. p. h. come from individual track irregularities each one of which produces a very damaging shock unless the spring system is capable of modifying it. The usual snubber is something which is placed under the truck bolster to absorb energy during movement of the spring group. Its very presence in the spring system makes the springs more sluggish in their operation and this is the last thing desired in high-speed trucks. Spring systems for high-speed trucks must be lively and capable of making the wheels follow the rails with as little variation as possible in the wheel pressure on the rail. After passing over a track irregularity they must quickly return to their neutral position so as not to be in an unfavorable position when the next irregularity is reached. There must be a certain amount of absorption in the spring system to damp motion quickly and to take care of the periodic impulses encountered at lower speeds, but the degree and character of this absorption must be kept within much narrower limits for high-speed trucks than for low-speed trucks. The first action of a spring system in passing over a low spot at high speed is to open rather than to close, and any interference with this action is detrimental.

These tests show that softer springs are the real solution of the high-speed truck problem, and the softer they are the better the results secured. The limitations in coupler-height variation and the large variation between empty and fully loaded weights of freight cars place limitations on the maximum spring travel which can be incorporated in freight trucks, but very few of the trucks in this test took full benefit of the spring travel which could be used. Another difficulty exists in the use of long travel springs in compression, and that is the fact that lateral stability decreases with increased travel. Failure to provide for this in truck design may result in insufficient horizontal stability.

This question of proper horizontal stability is very important from the standpoint of safety of operation at high speed. The lateral action of the wheels is pronounced at high speed and this results in an unsquaring force on the truck. If the truck does not offer sufficient resistance to this unsquaring action it might become great enough to cause derailment. Failure to control it properly results in bad lateral shocks to the car body even if it does not approach the derailing point, and this is cause for unsatisfactory performance.

Staff Meetings as an Operating Aid*

TO determine the present practice with respect to division staff meetings, a questionnaire on the subject was sent to the chief operating officers of 25 large railways. One-half of these roads hold division staff meetings regularly each month, others bi-monthly, quarterly and semi-annually, with only two roads not having such meetings.

It was generally stated that the superintendent makes his own program, which at times is supplemented by items furnished by the management. Quite a few of the superintendents keep regular minutes of meetings, which are distributed to division department heads, and in a few instances to executive officers. In most cases the superintendent acts as chairman and those in attendance are trainmasters, assistant trainmasters, chief clerks, master mechanics, road foremen, chief dispatchers, car distributors, general car foremen, general roadmasters, general yardmasters, division engineers, storekeepers and principal agents.

The range of subjects considered varies, but in the main covers important items that pertain to division operation. One ambitious superintendent's docket covered 42 different subjects for discussion. Our survey also developed that some railroads hold monthly meetings at system headquarters, attended by heads of departments and all superintendents, at which important information and data are secured, which the superintendent in turn uses at his monthly division staff meetings for the guidance of those concerned.

Meetings Recommended

Every superintendent is faced with the problems of:

Improving service
Safety and accident prevention
Reducing expenses
Eliminating overtime
Proper discipline
Rough handling
Fuel economy
Proper car handling and utilization
Loss and damage
L. C. L. handling
Proper utilization of power
Business development
Public relations
Maintenance
Labor relations

To the superintendent who has not been holding staff meetings regularly, this committee definitely recommends the practice. He will find it very much worth while to allot three or four hours each month or two to bring his supervisors and staff in to review past performances, and lay out his program to enlist the best efforts of his entire organization.

A superintendent can do much to make his meetings interesting by judicious arrangement of subjects. Too much time should not be devoted to one that is not of particular interest to the entire group, and the program should be arranged so that all attending will benefit.

Tact in handling a meeting is essential to its success. Subjects for discussion should be selected carefully in the interval between meetings, briefly presented and discussion encouraged. Long talkers should be diplomatically curbed, and those inclined to be backward when expressing their views should be encouraged. The alternating of chairmen might be found desirable, giving the trainmaster or some other division officer an opportunity to develop talent in conducting a meeting.

Increased Responsibility

In the last ten years the trend has been toward larger divisions. A division that extends over a thousand miles is not uncommon these days. On some railroads the position of general superintendent has been abolished, putting more responsibility upon the superintendent. These long divisions require the superintendent to spend most of his time on the road, and for this reason, in some instances, staff meetings have been abolished or infrequently and irregularly held. The reverse should be true. The extension of the division has not only placed more responsibility upon the superintendent, but upon his staff as well. For this reason, regular staff meetings become of even greater importance to enable the superintendent to keep in closer touch with what is going on over his widespread territory, and in coordinating the activities of his staff and the heads of the various departments on the division. Handling matters by correspondence is necessary, of course, but wherever possible the complex and technical problems of operating a division are far easier solved by personal contact in a staff meeting.

One of the objects of staff meetings is to break down departmental prejudices, and engender in the minds of everyone that constructive criticism is welcome, as it is difficult for human beings to see their own faults. Getting suggestions and criticism from the heads of departments keeps them on their toes.

A superintendent should get before his staff with all his force and power the danger of relaxing vigilance, particularly when the operation of a division runs so smoothly that it does not require undue attention. All should then realize that there is danger ahead, as there is no such thing as remaining in "status quo." There is either improvement or retrogression.

The holding of regular staff meetings is very much worth while. It has been proved and testified to by those who have made it a practice of long standing; and to those who have not been holding them regularly this committee urges and recommends their inauguration.

* * *

Looking North from Within the Big Train Shed at Reading Terminal, Philadelphia, Pa. The "Crusader" Has Just Arrived at the Right and a Multiple-Unit Electric Train at the Left is About to Leave for the Suburbs

* Abstracted from a report presented to the American Association of Railroad Superintendents by a committee of which Frank Cizek, superintendent, D. L. & W., Binghamton, N. Y., was chairman.

Communications and Books . . .

Now Is the Time to Press Home "Square Deal" for RRs

BURLINGAME, CALIF.

TO THE EDITOR:

I have read the *Railway Age* for a good number of years and have always been impressed with the importance of the matters presented on the publication and the timeliness and wisdom of the editorial comment.

As practically every industry depends to a greater or less extent on the railroads and their efficiency to transport the products of the factory and the farm to markets quickly, and at a relatively low cost, it would appear not only advisable, but imperative for the maintenance of the American system of private enterprise, that the burden of restrictive regulation be lifted from the railways, that managerial functions be returned to their operators, that they be accorded equal opportunity to compete for and handle whatever traffic is available, so that they may serve the public, industry, and the nation to the limit of their capacity and as efficiently as possible.

The best time to further the cause of the railroads, it seems to me, is when the wheels of industry are turning rapidly, and not when all industry, including the railroads, is at the nadir of depression. The present would appear to be not only propitious but compelling, for if, when current war conditions and national defense activities have subsided, the railroads are no stronger financially than they are now, with increased traffic due to abnormal conditions, the balance of them, not now in bankruptcy or receivership, will undoubtedly find themselves unable to meet their fixed charges and with a plant geared for high production not readily contractible.

I think that if the business man and farmer, who are characteristically fair-minded, are properly apprised of the many burdensome restrictions that the railroads are saddled with, and the lack of opportunity accorded them to compete on an equal basis for a large portion of traffic, they will perhaps take a different attitude toward that very necessary department of their business, the railway or shipping department. It is only after the well has run dry that most people miss the water, as is currently evidenced by the action of the communities in intervening when a railway proposes to abandon a section of line which is unable to compete profitably with unregulated transportation agencies, bearing, relatively, no portion of the taxation burden.

I do know of course that the *Railway Age* enjoys a wide circulation among officers and employees of railway and other transportation companies. I do not know, however, to what extent *Railway Age* is circulated among manufacturers, farmers, distributors and business men generally. The railway officer and employee is more or less familiar with the topics discussed in the *Railway Age* and with the position of the railway industry with respect to those topics.

I feel that a campaign to place the *Railway Age,* or copies of pertinent editorials on important matters of policy, in the hands of shippers would go a long way toward assisting in obtaining for the railway industry equality of opportunity and fair treatment by business men, legislators, and the public generally, the absence of which has resulted in thousands of stockholders being compelled, practically, to provide a service to every individual in the country with practically no return on investment—an object of socialism. The railroads themselves, through the A. A. R., insurance companies, stockholders' committees, Chambers of Commerce and industry generally should assist you in playing the spotlight on a condition which is at variance with the generally accepted "American Way" of private enterprise.

HOWARD J. CARROLL.

New Books

The Railroad Industry, by Lotys Benning Stewart. Paper bound. Mimeographed. 120 pages. Copies on request. Published by the National Youth Administration for Indiana, 415 Century Building, Indianapolis, Ind.

This is a rather unique compilation and is one of a series of similar studies being made of leading industries. It is devised for the use of young people and vocational counselors and is intended to give some idea of the possibilities of employment on the railroads. Apparently it is not an armchair report. Railroad employees in and about Indiana were interviewed and special credit is given for co-operation on the part of Dean A. A. Potter of the Schools of Engineering, Purdue University; Fred N. Reynolds, assistant general manager of the New York Central, Indianapolis; and W. F. Benning, assistant general freight agent of the New York Central at Cincinnati.

The first section of the book, including five chapters, contains a discussion of the present status of the railroads, a simple thumbnail sketch of their development, the effect of standardization and regulation, the importance of research and technological changes, and a forecast as to the future trends of the railroad industry and the possibilities of employment.

The chapter on the present status concludes with the statement that, "Despite the fact that these new forms of commercial transportation (except pipe lines) are not required to provide and maintain their own roadways and are less rigidly regulated than railway transportation, the railroads continue to perform the great bulk of the common carrier freight, passenger, express and mail transportation service of the nation. Today, as in the past, the railroads are the backbone of the American transportation system."

The second section of the book includes discussions of the qualifications and training of the workers, wages and hours, protection of workers, and training courses that are offered by railroads and colleges. This is followed by detailed descriptions of the jobs in the various departments of the railroads. The appendix relates specifically to statistics about the railroads of Indiana.

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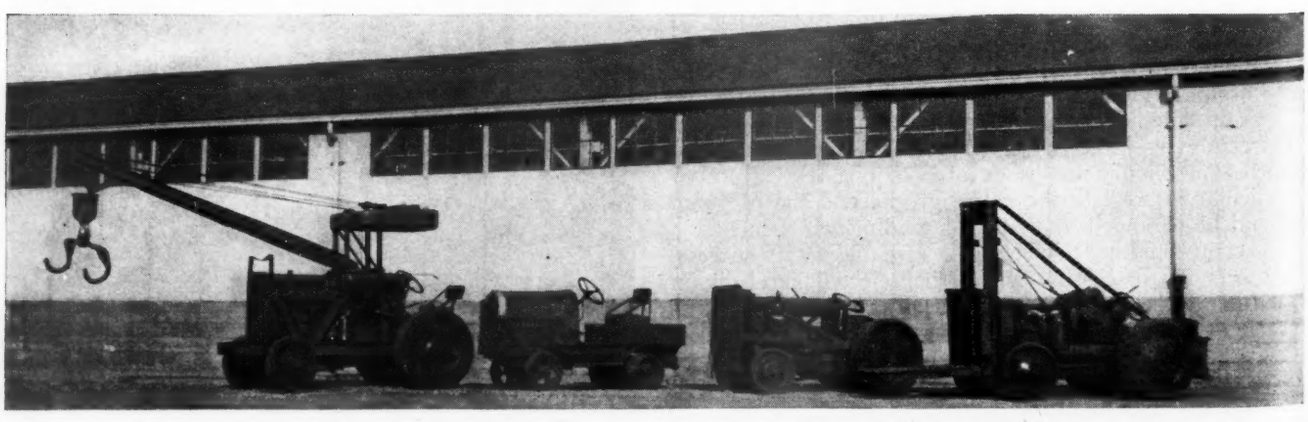

Motorized Equipment for Storekeeping on the Union Pacific at North Platte, Neb.

NEWS

Patriotism Rides the Mud Scows

Not pork, but unselfish love of country, has dredged our rivers, Mansfield says

"Speaking" as one of those who for a long time have devoted their "time and energy to planning and improving the navigable rivers and harbors of the United States," Chairman Mansfield of the House committee on rivers and harbors extended his remarks in the appendix to the September 13 issue of the Congressional Record to express gratification "at the state of preparedness of the Nation's waterways in the present emergency." The group for which Mr. Mansfield assumed the role of spokesman takes pride, as he put it, "in the fact that the plans have been made with the best interests of the nation ever in view and that the works have been authorized and constructed from a national viewpoint free from partisan and selfish motives.

"As a result," he went on, "this country, beginning to prepare for defense, finds its waterways better able than ever before to transport bulk freight and take care of the heavy traffic which the railroads were unable to handle in the first World War and are never able to transport when this country is sufficiently prosperous to produce and put into interstate commerce the heavy tonnages derived from its abundant natural resources. . . ." Next, Mr. Mansfield outlined in turn waterway projects which have been carried out in the coastal and lake regions, the Mississippi basin, the lower Mississippi river, the Missouri river, the upper Mississippi and Illinois rivers, and the Ohio river. He added:

"But for the comprehensive planning that has been accomplished with thoroughness and vision by the Army engineers of the War Department and but for the broad-minded statesmanship exercised by the Congress in authorizing waterway projects we might not be so well prepared now for the emergency we face. It should always be remembered that transportation of heavy bulk produce can never be handled by any form of transportation with the same efficiency and economy that is possible with waterway transportation. In fact no other form of transportation can fulfill this need in a national emergency. Waterway improvements are a direct and essential aid to national defense and this is particularly true for the great central portion of the Mississippi basin which is protected naturally by mountain ranges from hostile attack. . . . Already many plants . . . are located in it. . . . Undoubtedly other establishments for the production of war materials under the defense program will be located in this region. We must not neglect any of our waterways, but especially must the navigable rivers and channels in the central Mississippi basin be maintained, improved, and extended since water-borne commerce in America's citadel of defense is essential for preparedness."

August Operating Revenues 10 Per Cent Above 1939

Preliminary reports from 87 Class I railroads, representing 80.7 per cent of total operating revenues, made public September 17 by the Association of American Railroads, show that those roads, in August, had estimated operating revenues amounting to $305,753,875 compared with $278,078,195 in the same month of 1939, and $378,804,888 in the same month of 1930. The August gross was 10 per cent above that for August, 1939, but 19.3 per cent below August, 1930.

Freight revenues of the 87 roads in August amounted to $247,897,563 compared with $221,599,745 in August, 1939, and $289,020,069 in August, 1930, 11.9 per cent above the former, but 14.2 per cent below the same month in 1930. Passenger revenues totaled $33,675,150 compared with $33,035,584 in August, 1939, and $56,697,054 in August, 1930—1.9 per cent above the former, but 40.6 per cent below the same month in 1930.

Celebrates Santa Fe's Birthday

Atchison, Kan., the birthplace of the Atchison, Topeka & Santa Fe, held a birthday party on September 17 on the eightieth anniversary of the founding of the railroad. The railroad was chartered on February 2, 1859, and on September 17, 1860, a group of men met at Atchison to contribute $4,000 each and elect officers.

In honor of the occasion Gov. Payne Ratner and other Kansas officers closed the statehouse at Topeka for the day and joined in the festivities. A special train was operated over the historic route between Topeka and Atchison, carrying the official party and a delegation from the Topeka Chamber of Commerce to the fete. President Edward J. Engle and a party of other Santa Fe officers were guests of honor. A full day's program of parades, pageantry, band concerts, speaking and fireworks were scheduled. E. E. McInnis, general counsel of the Santa Fe, delivered the principal address. Other highlights on the program included unveiling a Santa Fe historical marker and a coronation ball for the "Birthday Queen."

Truck Knock on RRs False—Army

Warriors also deny they are "railroad-minded" and cite large use of trucks

"The railroads' handling of troops and material during the recent maneuvers in various parts of the country was entirely satisfactory." Thus, in effect, does the War Department dispose of charges levelled against it in an editorial in "Transport Topics," organ of the American Trucking Associations, Inc., in the issue of September 9, in which it is alleged that the railroads "already have failed in the preliminary tests put to them in Army maneuvers."

Also, the editorial went on to charge that "Delivery of equipment has been delayed, troop transport has been sidetracked, because the railroads were not able to carry out the Army program speedily and efficiently. This was true at the maneuvers in Louisiana and Texas; it was likewise true at the maneuvers in Wisconsin." Inquiry at the War Department reveals that there is no basis in the Department's experience for either of these statements. As reported in earlier issues of *Railway Age* the troop and material movements during the recent maneuvers were expeditiously and efficiently carried out with a minimum of delay considering the fact that the railroads transported some 150,000 soldiers in all parts of the country. Officials directly in charge of this movement in the War Department have nothing but praise for the way in which in the job was handled.

The editorial also alleges that the War Department is "railroad-minded" and attempts to substantiate its charge by citing the fact that recently the Association of American Railroads has called upon all its member lines to return to the Grand Trunk all of the latter's 50-ft. open-end box cars so that they may be used to transport trucks ordered by the Army in the rearming program. "This is illustrative," says the editorial, "of how the War Department, in the movement of equipment, supplies and men, is discriminating against motor transport in favor of railroads."

Answering the charge that it is "railroad-minded" the Department points out that the fact that it is ordering some 100,000 new trucks for delivery by the first of the year should disprove such an allegation. Moreover, it has been the policy of the Department for many years to use that form of transportation which it feels will

most satisfactorily do the work to be done. In this case it does not feel that the trucking industry could deliver this huge number of trucks to all parts of the country in as expeditious a manner as can the railroads.

Further refuting the charge of discrimination in favor of the railroads, a spokesman for the Department pointed out that during the recent maneuvers the railroads carried only about half of the men involved, some 150,000 out of 300,000 having been transported by trucks owned by the Army.

Railway Editors to Meet October 17-18

The Railway Magazine Editors' Association will hold its next meeting at the De Soto Hotel, Savannah, Ga., on October 17 and 18. Decision for the meeting was reached at a meeting of the executive committee in Cincinnati, Ohio, on September 7.

Former "Gazette" Editor Dies

Bradford Boardman, former managing editor of the "Railroad Gazette" (predecessor of the *Railway Age*) and executive officer of the Metropolitan Museum of Art, died at the museum on September 16 of a heart ailment, at the age of 57. Mr. Boardman was the son of W. H. Boardman, at one time president and editor of the Railroad Gazette. He was succeeded as managing editor by R. V. Wright in 1912, when he joined the museum staff.

Southwest Board Meeting

The fifty-fifth regular meeting of the Southwest Shippers Advisory Board will be held in Dallas, Tex., on September 26. Donald D. Conn, executive vice-president of the Transportation Association of America, will be the guest speaker at a luncheon sponsored by the Transportation Club of Dallas. His subject will be "The Enterprise System Can Save Itself." The National Defense Program and its relation to industry and transportation will be discussed at the general session.

Fan Trip

The New York, New Haven & Hartford will operate a 392-mile, 13-hour "thrill trip" for railroad enthusiasts out of New York and Connecticut points on Sunday, September 29. The special train is routed over the New Haven's main line to New Haven, Conn., at which point an inspection trip to the Cedar Hill classification yard will be made. Thence the train will proceed over the little-used "Air Line" to Willimantic and thence to Providence, R. I., via the former New York & New England tracks. The return from Providence will be made via Blackstone, Putnam and Hartford.

Central Places Modernized Cars in Service on Pacemaker

The New York Central placed modernized observation-lounge cars on its two Pacemakers—17-hour, all-coach trains between New York and Chicago—on September 14. The cars, designed by Henry Dreyfuss and rebuilt by the road's car department at its Beech Grove shops, were afforded public exhibition in New York and Chicago, respectively, on the previous day, together with a coach and dining car of the type used on the Pacemaker.

The modernized observation-lounge cars have streamlined solarium ends, extra wide windows, speed recorder, blue-green and silver decorations and tan-and-wine colored furniture.

Truce Defers Rutland Wage-Cut Strike-Threat to February 15

An eleventh - hour armistice reached shortly before a strike of the 1,500 employees of the Rutland was scheduled to go into effect at 6 p. m., September 15, will maintain the *status quo* until February 15, 1941, and defer a pay reduction announced by the road's receiver as effective the morning of September 16 to the morning of February 16. The truce followed a three-day conference of railroad and labor representatives with members of the National Mediation Board. The latter re-offered their services after provisions of the Railway Labor Act had reached a deadlock and the board had officially withdrawn its services.

The armistice agreement provides that statistics of operation of the road be studied by both parties as soon as figures are available following the close of the year, at which time representatives of the 15 labor organizations involved and the receiver will again discuss the question of wages. A statement issued jointly by L. G. Morphy, receiver, and J. P. Farrell, national vice-president of the Brotherhood of Locomotive Firemen & Enginemen, reads: "Through the sincere and earnest endeavors of Messrs. Cook, Beyer and Lewis, members of the National Mediation Board, the present differences existing between the receiver of the Rutland railroad and its employes have been composed, matters in controversy have been adjusted for the year 1940, and it is the hope of all concerned that amicable relations will continue and that the railroad will be given its full share of patronage, which will be handled in an efficient and courteous manner."

Navigation Out of St. Lawrence Proposals for the Present

Any near-future project on the St. Lawrence river will be designed to meet the electric-power needs of this country's and Canada's defense programs, and thus the navigation angle is out of the picture for the present, according to what President Roosevelt told correspondents at his September 13 press conference.

The President was asked about recent conferences in connection with the St. Lawrence project, and he replied that viewing the situation in the light of the country's defense program, the immediate need would seem to be the development of power facilities — entirely distinct from navigation. He plans no immediate message to Congress on the matter; and he also said that any development of power facilities would not prejudice a later development of navigation facilities.

N. Y. Central May Be Denied Fixed Bridge at Peekskill

The United States Board of Engineers at New York has recommended to the War Department that the New York Central's application to maintain a fixed or stationary bridge on the Hudson division main line across Annsville Creek where it joins the Hudson River near Peekskill be denied. At the same time the board has recommended that special regulations governing the present drawbridge at that point be relaxed somewhat in favor of the railroad. The road has undergone considerable expense during the summer by reason of movements of a private cabin cruiser berthed in Annsville creek, which forced the road to open the bridge on a number of occasions. This entailed employment of a large number of trackmen before and after each passage to disconnect and re-spike continuous tracks across the drawbridge which the road laid in the belief that Annsville creek would not be used by craft requiring an open draw.

Safety Men to Meet at Chicago

The Steam Railroad Section of the National Safety Council will convene at Chicago on October 8 and 9 in conjunction with the annual congress of the Council on October 7-11. The program of the Steam Railroad Section is as follows:

Afternoon, October 8

Remarks by General Chairman E. L. Henry

GRADE CROSSING ACCIDENTS

Presiding: John R. Tenney, supervisor of safety of the Western Marvland

The effectiveness of grade crossing protective devices from the viewpoint of:

(a) State authorities
Warren Henry, assistant chief engineer of the Illinois Commerce Commission

(b) Railroad engineering department
W. M. Post, signal engineer of the Pennsylvania

The public aspects of grade crossing accidents
D. H. Beatty, superintendent, department of safety of the Southern and chairman, Safety Section, Association of American Railroads.

Enforcement as a factor in grade crossing safety
Lieut. F. M. Kreml, director, safety division of the International Association of Chiefs of Police

Round Table Discussion

Election of 1940-41 Officers

Budd Will Make Progress Report in October 17 Radio Talk

Ralph Budd, railroad member of the National Defense Advisory Commission, is scheduled to make a progress report in a 15-minute radio address on October 17 from 7:15 to 7:30 Eastern Standard Time. Mr. Budd's talk, which will be carried by the Mutual Broadcasting System, is one of a series to be made over a period of seven weeks by the seven members of the commission. The program got under way September 19 with the address of E. R. Stettinius, Jr., the raw materials member of the Commission.

The desirability of avoiding congestion of transportation and warehousing facilities has been listed by the Defense Commission among the general principles governing the letting of national defense contracts. Twelve such principles were unanimously

agreed to and adopted by the Commission on September 6; and a statement of them was transmitted to Congress by President Roosevelt on September 13.

Porters Hold Convention in New York

Some 2,000 delegates and guests attended the 15th anniversary convention of the Brotherhood of Sleeping Car Porters in New York from September 17 to 20, inclusive. The brotherhood, an American Federation of Labor affiliate, and the only international union in the United States comprised of negroes, was addressed, among others, by Mayor F. H. LaGuardia of New York, Mrs. Eleanor Roosevelt and Governor Herbert Lehman. Mr. LaGuardia told the porters that those "who toil for their living in this country" would "naturally" support Franklin D. Roosevelt. The Mayor cited as the greatest achievement of the brotherhood "the giving of self-respect to every Pullman porter employed by a railroad." Mrs. Roosevelt and Governor Lehman limited their talks almost entirely to discussions of national defense and the forthcoming conscription, both supporting these measures in full. A. P. Randolph, president of the brotherhood, praised the principles of the New Deal and condemned all "Communist front and transmission belt organizations as a peril to the constructive and sound program of the Negro people."

June Bus Revenues 0.4 Per Cent Below 1939

Class I motor carriers of passengers reported June revenues of $10,589,781 as compared with $10,628,330 in June, 1939, a decrease of 0.4 per cent, according to the last compilation prepared by the Interstate Commerce Commission's Bureau of Statistics from 144 reports representing 145 bus operators. Passengers carried increased 12.6 per cent, from 11,108,866 to 12,514,075.

The breakdown by regions of the bus revenue and traffic figures, which exclude data on charter or special party service, is given in the accompanying table.

	Passenger Revenue		Passengers Carried	
	June, 1940	June, 1939	June, 1940	June, 1939
New England Region	$494,894	$546,840	986,987	930,130
Middle Atlantic Region	1,641,897	1,778,098	2,771,308	2,550,147
Central Region	1,972,937	1,998,283	2,592,591	1,935,056
Southern Region	2,273,135	2,004,812	2,670,921	2,255,399
Northwestern Region	475,578	442,591	331,278	321,698
Mid-Western Region	996,576	994,079	555,548	532,210
Southwestern Region	1,259,003	1,279,480	1,179,264	1,185,769
Rocky Mountain Region	121,004	118,429	86,073	82,188
Pacific Region	1,354,757	1,465,718	1,340,105	1,316,269

New England Advisory Board Hears Judge Fletcher

Some 200 shippers and railroad men attended the 32nd meeting of the New England Shippers Advisory Board at the Mt. Washington hotel, Bretton Woods, N. H., September 12 and 13 and heard an address delivered by Judge R. V. Fletcher, vice-president and general counsel, Association of American Railroads, on the changes brought about in the transportation picture through the passage of S. 2009 by Congress. Among other things, the railroads' chief protagonist in pushing passage of the bill said: "After all, nobody is interested in the welfare of the railroads as such or in the welfare of the trucks and buses as such, except the people who work for them. The interest of the public is in getting the most economical transportation that can be found, one that is the most convenient. That they are entitled to have and that they must seek out and ultimately find through the processes of economic law."

The board's commodity committees predicted an increase in the movement of carload freight in the New England territory for the fourth quarter of 2.9 per cent over the corresponding period of 1939. Principal increases are anticipated in iron and steel, lumber, machinery, brass, bronze and copper, clay, sand and gravel, scrap metals, chemicals and explosives.

Calling Gondola Cars Back East

Expedited return of 61-feet-or-longer gondola cars of Eastern and Allegheny district ownership is required in Special Car Order No. 41 issued on September 12 by W. C. Kendall, chairman of the Car Service Division, Association of American Railroads. "With steel mill operations approaching capacity," the order was necessary, "to insure adequate supply of long gondola cars for commodities for which such cars were constructed."

The order, directed to all railroads, does not, however, apply to territory west of the Continental Divide. Roads in Southern territory may use the gondolas "for immediate loading direct to points on and north of the Ohio and Potomac rivers and east of Chicago-St. Louis, but not to points intermediate thereto." Roads in Western and Southwestern territories may load direct "to points north of the Ohio river and east of Chicago-St. Louis, but not to points intermediate thereto." Cars may not be backhauled to obtain such loading.

The order applies to specified series of cars owned by the Baltimore & Ohio; Bessemer & Lake Erie; Central of New Jersey; Delaware, Lackawanna & Western; Erie; Lehigh Valley; New York, Chicago & St. Louis; New York Central; Pennsylvania; Pittsburgh & Lake Erie; Pittsburgh & West Virginia; Reading; Wheeling & Lake Erie; Western Maryland. Also, to any like cars of the same ownership which may be installed while the order is in effect.

Would Authorize G. M. & O. to Purchase Bus Affiliates

The Gulf, Mobile & Ohio, a new company formed to take over the merged properties of the Gulf, Mobile & Northern and the Mobile & Ohio, would be authorized to acquire control of the Gulf Transport Company through ownership of its capital stock and purchase the motor carrier operating rights and property of the Mobile & Ohio, if the Interstate Commerce Commission adopts a proposed report of its Examiner Robert R. Hendon. The examiner would also authorize the Gulf Transport Company to purchase the operating rights of W. B. Crane, doing business as the Crane Transportation Company, and the operating rights and property of Oscar Eugene Howard. These certificates would be granted with the usual restrictions on railroad motor carrier operations, to the effect that the service shall be auxiliary or supplementary to train service of the G. M. & O.

Because of procedural reasons and recent decisions of the commission the examiner would have the commission dismiss the application of the G. M. & O. to acquire control of the Mobile & Ohio Transportation Company of Illinois, and the Mobile & Ohio Transportation Company of Tennessee, through ownership of the capital stock.

House Committee Approves Unemployment Insurance Bill

The House committee on interstate and foreign commerce has reported favorably, with certain amendments, S. 3920, the Senate-approved bill which would increase benefit payments under the Railroad Unemployment Insurance Act and make some procedural changes in the law desired by the Railroad Retirement Board. As passed by the Senate it was estimated that the bill would increase benefit payments by 115 per cent; the House version would decrease that rise by 22.4 per cent, thus causing an upping of present benefits by some 92.6 per cent.

The present law provides for benefit payments for a period of 80 days, while the Senate version increased this to 100 days and provided that there could be a carryover of 50 days in the next year, thus making a total of 150 days in which benefits might be paid. The modified House bill would restore the period to a maximum of 100 days.

In the House as in the Senate the railroads had had introduced their own amendments to the Act, but the House committee chose to adopt a modified form of the amendments offered in behalf of railway labor and the Railroad Retirement Board.

October Safety Program Aimed at Office Employees

The October poster and circular of the Association of American Railroads' safety program is directed to those classes of railroad officers and employees in the so-called non-hazardous occupations—i. e., executives, staff assistants, and employees in professional, clerical and general classification. The circular points out that such employees and officers, while they have no direct part in the movement of trains or maintenance of equipment or tracks, are nevertheless faced daily with accident possibilities and can exert influence in any safety program.

It is reported, for example, that during the past ten years 129 employees and officers of these classifications were killed and 608 injured in accidents involving the movement of trains, chiefly being struck or run over by moving rolling stock. "This

danger is probably greater to you than to those who are habitually exposed to it because of your lack of familiarity with the movement of this equipment." The circular further points out that 67.5 per cent of those in non-hazardous classifications who were killed in the last ten years met death in accidents involving the movement of engines or cars.

The poster illustrates a number of typical office hazards such as newly-waxed linoleum floors, "hind-leg" chair-sitting, improper use of ladders, etc.

Freight Car Loading

Loading of revenue freight for the week ended September 14 totaled 804,309 cars, the Association of American Railroads announced on September 19. This was an increase of 109,051 cars, or 15.7 per cent, above the preceding week which included the Labor Day holiday, an increase of 3,878 cars, or 0.5 per cent, above the corresponding week of last year, and an increase of 144,146 cars, or 21.8 per cent, above the same week in 1938.

As reported in last week's issue, loadings of revenue freight for the week ended September 7 totaled 695,258 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings

For Week Ended Saturday, September 7

Districts	1940	1939	1938
Eastern	136,815	130,842	109,520
Allegheny	145,439	127,651	102,270
Pocahontas	45,670	48,469	44,215
Southern	94,230	97,081	89,277
Northwestern	126,052	105,974	79,432
Central Western	102,068	102,770	95,221
Southwestern	44,984	49,570	48,772
Total Western Districts	273,104	258,314	223,425
Total All Roads	695,258	662,357	568,707
Commodities			
Grain and grain products	36,775	36,136	30,517
Live stock	15,863	16,651	14,667
Coal	118,413	120,535	99,800
Coke	9,844	7,796	4,950
Forest products	34,457	29,980	26,619
Ore	69,478	49,478	24,994
Merchandise l.c.l.	134,181	135,592	134,392
Miscellaneous	276,247	266,189	232,768
September 7	695,258	662,357	568,707
August 31	768,821	716,397	648,029
August 24	761,002	683,906	620,557
August 17	743,121	669,793	597,884
August 10	726,976	661,023	589,568
Cumulative Total, 36 Weeks	24,145,755	21,846,065	20,112,380

In Canada.—Carloadings in the September 7 week totaled 55,361, as against 60,484 in the previous week and 60,572 in the corresponding week last year, according to the tabulation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Sept. 7, 1940	55,361	21,533
Aug. 31, 1940	60,484	24,100
Aug. 24, 1940	59,400	23,784
Sept. 9, 1939	60,572	18,668
Cumulative Totals for Canada:		
Sept. 7, 1940	1,858,802	873,169
Sept. 9, 1939	1,618,665	723,636
Sept. 10, 1938	1,608,449	720,537

Club Meetings

The Railway Club of Pittsburgh will hold its next meeting at the Fort Pitt hotel, Pittsburgh, Pa., on September 26 at 7 p. m. A paper entitled "Transportation and the National Defense" will be presented by J. M. Fitzgerald, vice-chairman, Eastern Railroad Presidents Conference, Committee on Public Relations, New York. Dinner for members and guests will be served at the hotel at 5:30 p. m.

The Car Foremen's Association of Omaha, Council Bluffs and South Omaha Interchange will hold its next meeting at the Union Pacific offices, Council Bluffs, Iowa, on October 10 at 1:30 p. m.

The Southern and Southwestern Railway Club will hold its next meeting at the Ansley hotel, Atlanta, Ga., on November 21 at 10 a. m. R. R. Royal, superintendent of shops, Illinois Central, Paducah, Ky., will present a paper entitled "Steam Locomotive Maintenance and Improvements to Existing Power."

The annual meeting of the Car Foremen's Association of Chicago will be held at the La Salle hotel, Chicago, on October 4. Following election and installation of officers, a program of entertainment will be presented.

The Northwest Car Men's Association will hold its annual meeting at the North Central Commercial Club, St. Paul, Minn., on October 7 at 8 p. m. Election of officers will take place.

The Indianapolis Car Inspection Association will hold its next meeting at the Indianapolis union station on October 7 at 7 p. m. C. J. Nelson, supervisor of interchange, Chicago Car Inspection Bureau, will be guest speaker.

The Metropolitan Traffic Association will hold its next meeting at the Imperial hotel, New York, on October 10, at which time election of officers will be held.

The Toronto (Ont.) Railway Club will hold its next regular meeting at the Royal York hotel on September 23 at 7:45 p. m. At that time Lem Adams, vice-president, and F. C. Hasse, general manager, The Oxweld Railroad Service Company, Chicago, will discuss the subjects "The Butt Welding of Rails by the Pressure Method" and "Unionmelt Welding—A New Welding Process Speeds Locomotive and Car Construction."

The Mid-West Shippers Advisory Board will hold its 52nd regular meeting at the Blackhawk hotel, Davenport, Iowa, on October 3, opening at 9 a. m.

Willkie Special to Tour 18 States

One of the largest trains ever used by a presidential candidate is carrying Wendell Willkie, Republican nominee for president, on his 7,200-mile tour of 18 western states between September 13 and 28. A feature of the 12-car train is a baggage car which houses a photographic dark room, radio equipment and mimeographing facilities provided for the 50 representatives of the press who are accompanying the nominee on his tour. The car used by Mr. Willkie and his family is Pullman Company's private car, Pioneer, a five-room, observation, lounge, kitchen car with a rear platform. Next in order are a room and lounge car, a diner, a visitor's lounge, an office car for the staff, three sleeping cars for reporters; two sleeping cars for representatives of radio and telegraph companies; a sleeping car for Willkie's staff; and a baggage car for photographic work, radio equipment and mimeographing.

Seven of the cars were assembled by Pullman at Chicago and three at Indianapolis and these were hauled to Rushville, Ind., by the Pennsylvania on September 12. On the same day, at 11:30 p. m., the complete train with the Willkie party left Rushville on the Baltimore & Ohio for

Mr. and Mrs. Willkie Wave from the Platform of Pullman Company's Private Car, the Pioneer, as the Train Started Its Tour

Indianapolis, Ind., and was then handled by the Pennsylvania from Indianapolis to Chicago, where it arrived at 7:30 a. m. on September 13. Throughout the tour the train will be delivered to connecting lines as cars instead of as a train in order to avoid per diem charges during extended stops in various cities.

After leaving Chicago on September 14, the train was routed over ten railroads through Illinois, Iowa, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, California, Oregon, Washington, Idaho, Montana, North Dakota, South Dakota, Minnesota, Nebraska, Iowa and Wisconsin. The train will be released upon its arrival in Chicago on September 28.

August Export Traffic 88 Per Cent Above Last Year

Export traffic through Atlantic and Gulf ports in August was approximately 88 per cent greater than in the same month one year ago, according to reports compiled by the Manager of Port Traffic and made public by the Association of American Railroads.

Cars of export freight, other than grain, unloaded at Atlantic and Gulf ports in August this year totaled 51,334 cars, compared with 27,278 cars last year, or an increase of 24,056 cars. This was the largest amount of export traffic moved through the ports since the Association of American Railroads established the office of Manager of Port Traffic last November, exceeding the previous high of 46,554 cars, reached in July this year, by 4,780, or about 10 per cent. Cars of grain for export unloaded in August at these ports amounted to 1,472, compared with 1,601 in August last year, a decrease of 8 per cent. The A. A. R. statement said that there has been no congestion or delay at the ports despite the increased traffic, and "the continued liquid situation is due very largely to the cooperation of steamship lines, port authorities, exporters and shippers."

The volume of export freight, other than grain, handled through New York and other ports, Hampton Roads and north, in August closely approximates that handled during the World War period as evidenced by the following figures showing cars of export freight, other than grain, unloaded in August, 1918 and 1919, and 1940:

Year	New York	Other North Atlantic Ports	Total Hampton Rds. and North
1940	21,046	15,129	36,175
1919	24,747	13,328	38,075
1918	22,692	13,627	36,319

The volume of traffic handled through all ports, Hampton Roads and north, in August, 1940, was 99.6 per cent of that handled in August, 1918, and 95 per cent of the August, 1919, traffic.

Equipment Installed

Class I railroads in the first eight months of 1940 put in service 44,791 new freight cars, according to the Association of American Railroads. In the same period last year, 12,481 new freight cars were put in service.

Of the total number of new freight cars installed in the first eight months of this year, there were 21,146 box, 21,528 coal, 710 flat, 645 refrigerator, 121 stock and 641 miscellaneous cars.

In the first eight months this year the railroads also put in service 237 new locomotives, of which 70 were steam and 167 electric and Diesel-electric. Installed in the first eight months last year were 166 new locomotives of which 32 were steam and 134 electric and Diesel-electric.

New freight cars on order on September 1 amounted to 18,456, compared with 19,765 on August 1 and 8,779 on September 1, 1939. New cars on order on September 1 this year included 11,755 box, 6,006 coal, 274 stock, 146 flat and 275 miscellaneous cars. Class I roads on September 1 this year also had 179 new locomotives on order, of which 114 were steam and 65 electric and Diesel-electric. On August 1 there were 168 new locomotives on order, of which 115 were steam and 53 were electric and Diesel-electric. New locomotives on order on September 1, last year, totaled 94, which included 63 steam and 31 electric and Diesel-electric.

Freight cars and locomotives leased or otherwise acquired are not included in the above figures.

Co-ordinated Associations to Meet October 22-25

Col. Robert S. Henry, assistant to president, Association of American Railroads, will address the joint session of the Railway Fuel and Traveling Engineers' Association, the Car Department Officers' Association, the Master Boiler Makers Association, and the Locomotive Maintenance Officers' Association to be held Tuesday morning, October 22, at the Hotel Sherman, Chicago. The associations, in separate sessions, will then take up their individual programs which are as follows. Educational motion pictures will be shown by the coordinated associations on Thursday evening, October 24.

Railway Fuel and Traveling Engineers' Association

TUESDAY, OCTOBER 22

Morning

President's address.
Appointment of special committees.
Proportions of Steam Generated on Locomotive Boilers Used for Various Purposes, by E. E. Chapman, mechanical assistant, Atchison, Topeka & Santa Fe.

Afternoon

Locomotive Firing Practice—Oil, by Roy W. Hunt, fuel supervisor, Atchison, Topeka & Santa Fe.
Locomotive Firing Practice—Coal, by W. C. Shove, general road foreman of engines, New York, New Haven & Hartford.

WEDNESDAY, OCTOBER 23—MECHANICAL DAY

Morning

New Locomotive Economy Devices, by A. G. Hoppe, assistant mechanical engineer, Chicago, Milwaukee, St. Paul & Pacific.
Address by D. S. Ellis, chief mechanical officer, Chesapeake & Ohio.
Utilization of motive power, by A. A. Raymond, superintendent fuel and locomotive performance, New York Central.
Turbine and Condensing Locomotives, by L. P. Michael, chief mechanical engineer, Chicago & North Western.

Afternoon

Report on New York Central Tests at Selkirk, by W. F. Collins, engineer of tests, New York Central.

THURSDAY, OCTOBER 24—AIR-BRAKE DAY

Morning

Air Brakes, by J. A. Burke, supervisor air brakes, Atchison, Topeka & Santa Fe.
(a) No. 8 ET vs. No. 6 ET, by G. H. Higley, general air-brake inspector, Erie.
(b) High-speed Braking with D. 22 Control, by H. I. Tramblie, supervisor of air brakes, Chicago, Burlington & Quincy.

Afternoon

Address on The Road Foreman and the Diesel Locomotive, by L. W. Powell, road foreman of engines, Atchison, Topeka & Santa Fe.

FRIDAY, OCTOBER 25—FUEL DAY

Morning

Coal Preparation, by S. A. Dickson, fuel supervisor, Alton.
Fuel Economy from the Viewpoint of the Chief Dispatcher, by T. O. Weeks, division trainmaster, Missouri Pacific.
Fuel Records and Statistics, by E. E. Ramey, fuel engineer, Baltimore & Ohio.
Stationary Boiler Plants—Coal Fired, by E. G. Sanders, fuel conservation engineer, Atchison, Topeka & Santa Fe.
Who Uses and Wastes the Most Fuel, by J. G. Crawford, fuel engineer, Chicago, Burlington & Quincy.
Elections.
Secretary-Treasurer's report.
Special Committee Reports—Subjects.

Evening (Movie Night)

Champion Coal.
Acetylene Association film.
Action of Draft on Fuel Bed at Various Rates of Firing.

Car Department Officers Association

TUESDAY, OCTOBER 22

Morning

Approval of minutes of last annual meeting.
President's address.

Afternoon

Reports of Membership Committees:
Northeast District — A. J. Krueger, general chairman.
Southeast district—E. S. Smith, general chairman.
Southwest district — F. E. Cheshire, general chairman.
Northwest district—G. R. Andersen, general chairman.
Report of Secretary-Treasurer.
Report of unfinished business.
Report of new business.

WEDNESDAY, OCTOBER 23

Morning

Report of Publicity Committee—E. L. Woodward, western editor, Railway Mechanical Engineer, chairman.
Address: Importance of the car department in the function of rail transportation, by J. M. Symes, general manager, Western Lines, Pennsylvania, and second vice-president, Indianapolis Union Ry.
Report of Freight and Passenger Car Construction and Maintenance Committee—D. J. Sheehan, superintendent motive power, Chicago & Eastern Illinois, chairman.
Report of Shop Operation, Facilities and Tools Committee—J. A. Deppe, superintendent car department, C. M. St. P. & P., chairman.

Afternoon

Report of Passenger Train Car Terminal Handling Committee & E. J. Hollahan, general car foreman, Illinois Central, chairman.
Report of Lubricants and Lubrication Committee—J. R. Brooks, supervisor lubrication and supplies, Chesapeake & Ohio, chairman.

THURSDAY, OCTOBER 24

Morning

Report of Freight Car Inspection and Preparation for Commodity Loading Committee — F. J. Swanson, general car department supervisor, C. M. St. P. & P., chairman.
Address: Car maintenance, performance and expense, by O. A. Garber, chief mechanical officer, Missouri Pacific Lines.
Report of Interchange and Billing for Car Repairs Committee—M. E. Fitzgerald, master car builder, Chicago & Eastern Illinois, chairman.

Afternoon

Report of A. A. R. Loading Rules Committee —H. H. Golden, supervisor of A. A. R. interchange and accounting, L. & N., chairman.

FRIDAY, OCTOBER 25

Morning

Report of Painting Committee — C. L. Swing, general foreman, Pullman-Standard Car Mfg. Co., chairman.
Report of Booster Committee—Brad S. Johnson, sales engineer, W. H. Miner, Inc., chairman.
Report of Reception Committee—W. J. Demmert, sales agent, Griffin Wheel Co., chairman.
Suggestions for good of the association.

Afternoon

Report of the Nominating Committee — J. E. Keegan, chief car inspector, Pennsylvania, chairman.
Election of Officers.

(*Continued on page 420*)

Master Boiler Makers Association

TUESDAY, OCTOBER 22

Morning

President's address.
Remarks by L. B. Rhodes, president, Allied Railway Supply Association.

Afternoon

History of the Association by John A. Doarnberger.
Address by Dr. Edward C. Elliott, president, Purdue University.
Topic No. 2. Pitting and corrosion on firebox sheets and rivet heads.
Discussion of topics for 1941 meeting.

WEDNESDAY, OCTOBER 23

Morning

Business session.
Address by M. A. Quinn, general master mechanic, Delaware, Lackawanna & Western.
Topic No. 5. Application of iron, steel and alloy rivets with recommendations for heating and driving.
Illustrated paper by Ray McBrain, engineer of tests, Denver & Rio Grande Western, on Effects of service on carbon and alloy steel in the boiler and firebox and the aging of the material.

Afternoon

Topic No. 3. (Continued from 1939)—Improving circulation in the locomotive boiler—Increasing feedwater temperature — Detrimental effects on circulation due to improper firing practices—Proper firing up and cooling down of boilers—Design of new boilers to improve their water-carrying properties.
Secretary-Treasurer's report.
Committee on Law.

THURSDAY, OCTOBER 24

Morning

Address by a railroad officer.
Topic No. 1. Use of acetylene and electric processes in the boiler shop.
Paper with illustrations by a committee of the International Acetylene Association, on Use of oxy-acetylene cutting and welding in the boiler shop.
Paper with illustrations by W. G. Theisinger, welding and metallurgical engineer, Lukens Steel Co., on Heat and mechanical stresses in welding and the forming and rolling of heads and plates.

Afternoon

Topic No. 6. (Continued from 1939). Longitudinal cracking of flues in service.
Topic No. 8. Tender-cistern maintenance practices.

FRIDAY, OCTOBER 25

Morning

Topic No. 4. (Continued from 1939). Chemical treatment of boiler feedwater.
Topic No. 7. Causes and control of cinder cutting.

Afternoon

Report of the Executive Board.
Report of the Committee on Law.
Election of officers.

Locomotive Maintenance Officers' Association

TUESDAY, OCTOBER 22

Morning

President's opening address and report.
Secretary-Treasurer's report.
Introduction of members present.
Appointment of Nominating Committee.

Afternoon

What Members of the L. M. O. A. Can Do to Improve the Service on All Railroads — Address by C. B. Hitch, superintendent of motive power, Chesapeake & Ohio.

WEDNESDAY, OCTOBER 23

Morning

The Design, Operation and Maintenance of Diesel Electric Locomotives, by H. V. Gill, supervisor of Diesel engines, Santa Fe System.
Future Locomotive Air Brake Maintenance, by J. P. Stewart, general supervisor air brakes, Missouri Pacific Lines.

Afternoon

Use of Modern Machinery and Tools in Locomotive Repairs—Address by D. J. Sheehan, superintendent motive power, Chicago & Eastern Illinois.

THURSDAY, OCTOBER 24

Morning

Roundhouse Problems of the Present Day — Address by H. E. Hinds, assistant mechanical engineer, Chicago, Burlington & Quincy.
Election of Officers.

Afternoon

Luncheon in honor of Advisory Board.
Speaker: John M. Hall, director of Bureau of Locomotive Inspection, Interstate Commerce Commission, Washington, D. C. Subject: The Responsibility of the Locomotive Maintenance Officer and the Federal Inspector.
Remarks by Advisory Board Members:
O. A. Garber, chief mechanical officer, Missouri Pacific.
D. S. Ellis, chief mechanical officer, Chesapeake & Ohio.
J. Roberts, chief of motive power and car equipment, Canadian National.

FRIDAY, OCTOBER 25

Morning

Maintenance of Locomotives on Long Runs, by Lee Robinson, superintendent of equipment, Illinois Central System.

Afternoon

Secretary-Treasurer's report of convention.
Installation of new president and officers.
Outline for 1941.

Bridge and Building Association

The American Railway Bridge and Building Association will hold its forty-seventh annual meeting at the Hotel Stevens, Chicago, on October 15-17. The program for this meeting is as follows:

TUESDAY, OCTOBER 15

Morning Session—10 a. m.

Convention called to order
Opening address by C. E. Johnston, chairman, Western Association of Railway Executives, Chicago
Greetings from the American Railway Engineering Association, G. S. Fanning (chief engineer, Erie, Cleveland, Ohio), President
Greetings from the Roadmasters and Maintenance of Way Association, J. J. Clutz (division engineer, Pennsylvania, Indianapolis, Ind.), President
Greetings from the Bridge and Building Supply Men's Association, H. A. Wolfe (railroad representative, Lehon Co., Chicago), President
Address by President A. E. Bechtelheimer (assistant engineer bridges, C. & N. W., Chicago)
Report of Committee on The Mechanization of Bridge and Building Forces; M. H. Dick, chairman (eastern editor, Railway Engineering and Maintenance, New York)

Afternoon Session—2 p. m.

Report of Committee on The Detection and Elimination of Termites in Railway Structures; T. H. Strate, chairman (division engineer, C. M. St. P. & P., Chicago)
Address on Streamlining the Smaller Passenger Stations, by Otto Kuhler, consulting designer, New York
Report of Committee on The Inspection of Buildings to Formulate the Maintenance Program; L. E. Peyser, chairman (assistant architect, S. P., San Francisco, Cal.)

Tuesday Evening—8 p. m.

Address on The Bridges on the Shasta Line Diversion of the Southern Pacific Company, by George W. Rear, bridge engineer, S. P., Pacific System

WEDNESDAY, OCTOBER 16

Morning Session—9:30 a. m.

Report of Committee on Protecting Steel Structures from Severe Corrosion; A. M. Knowles, chairman (assistant engineer structures, Erie, Cleveland, Ohio)
Address on How Bridge and Building Officers Can Co-operate with the Purchasing and Stores Department in Protecting Their Material Requirements, by Roy D. Long, general purchasing agent, C. B. & Q., Chicago
Report of Committee on The Repair and Renewal of Ballast Deck Bridges; W. A. Sweet, chairman (general foreman bridges and buildings, A. T. & S. F., Newton, Kan.)

Luncheon—12:15 p. m.

Address on Current Railway Problems

Afternoon Session—2 p. m.

Report of Committee on The Adjustment of Locomotive Watering Facilities to Larger Tenders and High-Speed Trains; W. G. Powrie, chairman (engineer water service, C. M. St. P. & P., Chicago)
Report of Committee on The Heating of Locomotive Terminal and Shop Buildings; I. A. Moore, chairman (supervisor bridges and buildings, C. & E. I., Danville, Ill.)
In Memoriam, Calvin A. Lichty; Past-President Elmer T. Howson presiding—Brief addresses by Past-Presidents C. R. Knowles, J. P. Wood and Armstrong Chinn and by Tom Lehon, past-president, Bridge and Building Supply Men's Association

Wednesday Evening

Annual dinner jointly with the Bridge and Building Supply Men's Association

THURSDAY, OCTOBER 17

Morning Session—9:30 a. m.

Report of Committee on The Storage and Delivery of Bridge and Building Materials; R. E. Caudle, chairman (assistant engineer structures, M. P., Houston, Tex.)
Closing business

On Thursday afternoon the members will visit the system storehouse of the Chicago, Burlington & Quincy at Aurora, Ill., where opportunity will be afforded them to see how materials are assembled and distributed to meet the requirements of bridge and building forces in the field.

The Track Supply Exhibit

In conjunction with the meeting of the Roadmasters' Association, 55 manufacturers of materials and equipment used in the construction and maintenance of track presented an exhibit of their products under the auspices of the Track Supply Association. The exhibit was held in the exhibit room in the Hotel Stevens, immediately adjacent to the convention meeting room, where adequate space was available and convenient and where the examination of the exhibit by those attending the convention was assured. Not only was the number of exhibitors greater than for any year since 1930, but the number of exhibit spaces occupied, 74, was also larger. This compares with 45 companies who employed 63 spaces a year ago.

The officers of the Track Supply Association who were responsible for the preparation and conduct of the exhibition were: President, R. J. McComb, vice-president, Woodings-Verona Tool Works, Chicago; first vice-president, E. C. Argust, vice-president and secretary, Morden Frog & Crossing Works, Chicago; second vice-president, R. M. Blackburn, Buda Company, Chicago; secretary-treasurer, Lewis Thomas, general sales manager, Q & C Company, Chicago; directors, Lem Adams, vice-president, Oxweld Railroad Service Company, Chicago (ex-officio); G. L. Sitton, Southern Railway, Charlotte, N. C. (honorary); F. P. Cullen, Cullen-Friestedt Company, Chicago; W. W. Fitzpatrick, Nordberg Manufacturing Company, Chicago; H. J. Hickey, The Rail Joint Company, Inc., Chicago; George W. Morrow, Reade Manufacturing Company, Inc., Chicago; F. H. Philbrick, Power Ballaster Corporation, Chicago; J. C. Rinehart, Eagle Grinding Wheel Company, Chicago.

In the election of officers for the new year, Mr. Argust was advanced to the presidency; Mr. Blackburn was made first vice-president; Mr. Hickey was elected second vice-president; and Mr. Thomas was re-elected secretary-treasurer. The new directors elected for two years were: H. W. Cutshall, Electric Tamper & Equipment Company, Chicago; H. M. McFarlane, O. F. Jordan Company, East Chicago, Ind.; and T. D. Crowley, Creepcheck Company, Chicago.

A list of the exhibitors, the products shown and the names of their representatives follows:

Air Reduction Sales Company, New York — Welding and cutting equipment; oxygen and acetylene regulators; pipe welding; rail cropping; butt-welded rail; built-up rail joints; flame-cleaning torch—C. B. Armstrong, A. W. Brown, C. A. Dailey, J. F. Franzen, J. W. Kenefic, L. C. McDowell, U. F. Portell, D. N. Newland, E. F. Turner and M. M. Weist.

American Fork & Hoe Company, Cleveland, Ohio—Rail anchors; tapered rail joint shims; shovels; weed cutters; forks, rakes; scuffle hoes; broom rakes; axes; hammers; scythes—H. C. Branahl, C. C. Connolly, G. L. Dunn, S. L.

Henderson, H. S. Johnson, J. J. Nolan, D. L. O'Brien, Frank J. Reagan, John Skeel and R. J. Whalen.

Armco Railroad Sales Company, Middletown, Ohio—Samples of pipe and interlocked and clip-type sheet piling; models of bin-type retaining wall, multiplate pipe and portable airline; sub-drainage photographs—C. H. Anderson, R. Y. Barham and E. Harbeck.

Barco Manufacturing Company, Chicago — Gasoline tie tampers; gasoline hammer—F. N. Bard, W. J. Belhke, C. A. Cox, C. O. Jenista, W. T. Jones, L. J. Lytle, J. L. McLean, C. L. Mellor and F. B. Nugent.

Buda Company, Harvey, Ill.—Inspection motor car; switch stand; bonding drill; track drill; track liner, rail bender; journal jacks; track jacks; hydraulic jacks; pole jacks; tie puller and tie spacers—R. M. Blackburn, H. H. Cohenour, J. S. Dempsey, R. B. Fisher, F. L. Gormley, W. H. Haas, R. K. Mangan, M. S. Rotroff, J. W. Sanford and G. A. Secor.

Chicago Pneumatic Tool Company, New York — Pneumatic tamper; gasoline tamper; and power-vane impact wrench—H. R. Deubel, T. P. Harris, W. Pallowick and W. E. Stockwell.

Chipman Chemical Company, Inc., Bound Brook, N. J.—Weed killer and paint products—C. M. Bernuth, N. J. Leavitt, W. H. Moyer, I. J. Strain and J. A. Williams.

Conley Frog & Switch Company, Memphis, Tenn.—Expansion joints for fixed span, swing and bascule bridges; solid manganese spring frogs; turntable frogs; frogs for rail laying work and wrecking service—E. H. Baumgarten, J. E. Conley and L. J. White.

Creepcheck Company, Inc., Newark, N. J.—Rail anchors—T. D. Crowley, R. R. Dinklage and N. A. Howell.

Crerar, Adams & Co., Chicago—Track and bonding drills; track tools; wrenches; handles and track gages; tie, lumber and carpenters crayons; branding and soldering blow torches—R. W. Beasant, Geo. J. Doyle, A. Kopala, I. E. Poehler and J. M. Temple.

Cullen-Friestedt Company, Chicago — Moving pictures of Burro locomotive crane in operation; rail tongs—W. C. Bamber, K. J. Beller, L. B. Bertaux, C. J. Bronez, E. V. Cullen, F. J. Cullen, F. P. Cullen, T. G. Frazee, G. H. Goodell, Robert W. Jamison, F. L. Kendig, Jos. F. Leonard, James E. Simkins and Wm. J. Roehl.

A. P. deSanno & Son, Inc., Philadelphia, Pa.—Radiac grinding wheels—L. G. Martin, A. E. Peterson, P. M. McCance, E. J. Rohan and W. K. Whelan.

Duff-Norton Manufacturing Company, Pittsburgh, Pa.—Track jacks; power jacks; journal jacks; automatic lowering jacks; tie spacers; tie remover—C. N. Thulin and E. E. Thulin.

Eagle Grinding Wheel Company, Chicago — Grinding wheels—John Abram, L. E. Buckingham, R. S. Lloyd and J. C. Rinehart.

Elastic Rail Spike Corporation, New York—Elastic rail spikes—C. M. Bernuth, William A. Fisher, A. C. Jack and B. Kuckuck.

Electric Tamper & Equipment Company, Ludington, Mich.—Electric tie tampers and 1, 2, 4, 8 and 12-tool power units; tamping tools and assorted blades—H. W. Cutshall, L. S. Osborn, G. L. Walters, J. M. Webb and M. S. Westlund.

Fairmont Railway Motors, Inc., Fairmont, Minn.—Inspection car; section car; and extra gang bridge and building car—C. P. Benning, W. D. Brooks, Kenneth Cavins, W. G. Day, Arthur R. Fletcher, W. F. Kasper, J. T. McMahon, V. Pagett, H. W. Protzeller, C. L. Rager, W. H. Ripken, H. A. Sly, Ira Sublett and William Williamson.

Gary Screw & Bolt Company, Pittsburgh, Pa.—Giant-grip dowels; double-grip spikes; dowel studs; and bolts, nuts and rivets—R. W. Dierker, G. J. Garvey, H. C. Graham, M. G. Kirk, P. Robinson and J. J. Schneider, Jr.

Hayes Track Appliance Company, Richmond, Ind.—Models of bumping post, derails and wheel stops—S. W. Hayes, S. W. Hayes, Jr., Herbert J. Mayer and John H. Sullivan.

Illinois Malleable Iron Company, Railroad Division, Chicago—Rail anchors—Chas. G. Ericson, Dayton T. Hogg, John C. Kuhns and H. A. Morean.

Ingersoll-Rand Company, New York — Spot-tamper compressor; screw spike driver; rail drill; grinder; wood borer; impact wrench; track wrench; tie tamper; spike driver; cribbing fork—G. E. Bridge and K. I. Thompson.

Jacobsen Manufacturing Company, Racine, Wis.—Motor scythe; power lawn mower; hand lawn mower; power-operated snow plow—L. A. Ferguson, R. B. Hill and A. H. Roper.

O. F. Jordan Company, East Chicago, Ind.—Model and pictures of spreader ditcher—A. W. Banton, J. C. Forbes, H. M. McFarlane and C. W. Shipley.

Kalamazoo Railway Supply Company, Kalamazoo, Mich.—One-man inspection car; light section motor car; signal-maintainer car; motor-car wheels; and track gage and level—L. Boswell, Ralph E. Keller, Frank E. McAllister, E. C. Poehler and P. J. Robischung.

Link-Belt-Speeder Corporation, Chicago. — Photograph of shovels and locomotive cranes—L. P. Spillan and N. A. Weston.

Lundie Engineering Corporation, New York—Rail clips; tie plates; and tie tongs — L. B. Armstrong and O. W. Youngquist.

Maintenance Equipment Company, Chicago—Switch point protector; rail and flange lubricator; derail; and literature on rail layer—E. Overmier, T. E. Rodman, R. J. Shanahan and P. A. Wells.

Mall Tool Company, Chicago — Gasoline and electric rail grinders; cross slotters; concrete vibrators and surfacers; bridge and building machines; gasoline, electric and air-driven chain saws; gasoline and electric drills; power wrenches; flexible-shaft grinders and polishers—J. Innes, A. W. Mall, F. A. McGonigle, M. Rhenquist and M. Riley.

Metal & Thermit Corporation, New York — Thermit-pressure rail welds and electric welding rods—A. Lucas, W. B. Sharav and C. D. Young.

Morden Frog & Crossing Works, Chicago — Heat-treated forged compromise joints; adjustable rail braces; forged steel braces; Sampson switch point; standard switch point; new saw-toothed adjustment for adjustable braces—E. C. Argust, W. Homer Hartz, G. F. Killmer, L. I. Martin and L. C. Reebs.

Moto-Mower Company, Chicago—Power sickle-bar mower; power lawn mowers; and hand mowers—L. C. Meskimen, J. O. Spottswood and Mrs. L. C. Meskimen.

Nordberg Manufacturing Company, Milwaukee, Wis. — Rail grinders; track power drill; power track wrench; utility rail grinders; surface grinders; precision grinders; accessories—C. P. Clemmens, W. W. Fitzpatrick, C. K. Jensch, H. H. Talboys and W. E. Bugbee.

Northwestern Motor Company, Eau Claire, Wis.—Bridge and building gang car; all-service section car; safety-first section car; light all-service car—F. W. Anderson, Otis B. Duncan, Geo. H. Goodell, C. E. Murphy, A. H. Nelson, Geo. Prest and W. J. Roehl.

Oliver Iron & Steel Corporation, Pittsburgh, Pa.—Gage rods; heat treated track and switch bolts; screw spikes; drive spikes and wrench-tite nuts—B. J. Beck, J. G. Graham and John R. Olsen.

Oxweld Railroad Service Company, Chicago —Oxy-acetylene welding and cutting apparatus; oxygen; acetylene; carbide; actual examples of battered joint reconditioning; rail butt welding; angle-bar welding; switch-point welding; frog welding; application of switch-point protectors; and heat-treating of rail ends—Lem Adams, D. Arnold, M. C. Beymer, G. P. Bogert, M. Burnett, Jr., W. E. Campbell, F. J. Duffie, F. M. Finsthwait, H. V. Gigandet, E. B. Hall, Jr., F. C. Hasse, R. A. Heaney, H. W. Hicks, W. A. Hogan, S. B. Hopkins, P. Hunter, Jr., J. W. Lacey, Wm. Leighton, G. B. Moynahan, D. H. Pittman, J. H. Rodger, H. W. Schulze, J. C. Stephenson, F. C. Teichen and J. E. Winslow.

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Packard Electric Company, Warren, Ohio — Flex-Toe claw bar—W. H. Bon, F. J. Lehman, Howard Mull and O. W. Youngquist.

Pettibone Mulliken Corporation, Chicago — Mechanical switchman; switch stands—W. A. Enstrom, E. J. Fallon, C. A. Johnson, Carl Landberg, W. E. Olds and G. J. Slibeck.

Pocket List of Railroad Officials, New York —Copies of Pocket List of Railroad Officials—B. J. Wilson.

Portable Equipment Company, Chicago—Moving picture of Firestone Rubber tie plate and other insulating plates for rails—J. E. Buckingham, T. W. Stedman, S. A. Stephens and A. W. Donop.

Positive Rail Anchor Company, Chicago — Rail anchors; guard-rail plates and braces; adjustable rail braces—L. C. Ferguson and R. J. Platt.

Power Ballaster Company, Chicago — Motion pictures of power track ballaster and power track cribbing machine—W. E. Bugbee, Ralph Payne, F. H. Philbrick, L. L. Schreck and Stanley H. Smith.

Q & C Company, New York — Guard-rail clamp; switch-point guard; compromise joints; derail; gaging tools; wheel stops; rail tongs; gage rods; flangeway guard; adjustable rail brace; electric switch heater—G. H. Goodell, M. Iseldyke, L. E. Hassman, G. Prest and Lewis Thomas.

The Rail Joint Company, Inc., New York—Insulated rail joints; standard joints; compromise joints; fibre insulation; RMC plastic cakes for joint lubrication — W. E. Gadd, Harry C. Hickey, H. L. Lansing, G. H. Larson, J. N. Meade, R. W. Payne and Thomas Ryan.

The Rails Company, New Haven, Conn. — M. & L. track; compression track fastenings; compression screw spike; full-throated cut spike; oil, gas and electric switch heaters; track lubricator; spring spike; head contact insert for reconditioning rail joints; automatic switch lock; poster on strip welding for building up battered rail ends—R. E. Bell, L. T. Burwell, W. A. Peck and J. V. Wescott.

Railway Engineering and Maintenance, Chicago—Copies of Railway Engineering and Maintenance and Railway Age—G. E. Boyd, C. M. Burpee, S. W. Hickey, N. D. Howard, Elmer T. Howson, F. C. Koch, H. E. McCandless, C. W. Merriken, H. A. Morrison and J. S. Vreeland.

Railway Purchases and Stores, Chicago — Copies of publication—K. F. Sheeran and Edward Wray.

Ramapo Ajax Division, American Brake Shoe & Foundry Company, New York — Switch stands; rail lubricators — T. E. Akers, G. A. Carlson, J. E. Davidson, R. E. Einstein, H. Hazelton, A. F. Hess, Darcy F. Hilton, J. V. Houston, A. F. Huber, J. S. Hutchins, J. P. Kleinkort, E. F. Needham, R. W. Payne, W. A. Peddle, H. W. Renick.

Railway Track-Work Company, Philadelphia, Pa. & Portable track grinders; stock rail grinders; flexible shaft grinders; portable drill; accessories; grinding wheels—H. M. Moorhead and A. M. Nardini.

Reade Manufacturing Company, Inc., Jersey City, N. J.—Literature and photographs on weed control—D. M. DeWitt, George Morrow, C. A. Parish, Charles H. Reade and Charles F. Reade.

Templeton, Kenly & Co., Ltd., Chicago — Track, bridge and journal jacks, with exclusive wheel hold-down; car retarder jacks; tie spacer; rail puller and expander—W. C. Cornu, H. C. Dilsizian, R. B. Hill, W. H. Kreer, P. H. McManus, William Simpson, J. B. Templeton and W. B. Templeton.

Union Switch & Signal Company, Swissvale, Pa.—Showing hand-operated switch stands with lock-rod circuit-controller and point detector; transparencies of car retarders; centralized traffic control; U-R interlocking, cab signals; facing-point lock—W. H. Horsch, J. L. Loucks, J. K. Mickley and George Marloff.

Warren Tool Corporation, Warren, Ohio — Flex-Toe claw bar—W. H. Bon, F. J. Lehman, Howard Mull and O. W. Youngquist.

Western Railroad Supply Company, Chicago —Dragging equipment detector, portable wayside device to check train speeds; and various types of lamps—John Hensel and Norman Gort.

Woodings-Verona Tool Works and Woodings Forge & Tool Company, Verona, Pa. — Rail anchors; triflex springs—A. C. Laesing, James McComb, R. J. McComb, G. L. McKewin, J. M. Moore, C. L. Woodings and W. H. Woodings.

Woolery Machine Company, Minneapolis, Minn.—Tie cutting machine; creosote-spray machine—A. J. Franke, A. C. Heath and H. E. Woolery.

Equipment and Supplies

LOCOMOTIVES

THE UNITED STATES NAVY DEPARTMENT, Bureau of Supplies & Accounts, has ordered one Diesel-electric locomotive from the General Electric Company at a bid price of $18,800.

THE GULF, MOBILE & OHIO is taking delivery this week of two 2,000 hp. Diesel-electric locomotives from the American Locomotive Company for "Rebel" service. Previous mention of these locomotives was made in the *Railway Age* of August 24, page 291.

THE SEABOARD AIR LINE has ordered one 2,000-hp. Diesel-electric locomotive from the Electro-Motive Corporation to haul "Silver Meteor" equipment between New York and Florida. The locomotive ordered was built last year and is now on display at the General Motors' exhibit at the New York World's Fair.

The board of directors of the BALTIMORE & OHIO, at a meeting held in New York on September 18, authorized the purchase of seven 2,000-hp. Diesel-electric locomotive units for passenger-train service, to be built by the Electro-Motive Corporation. The new units will be used on heavy through trains.

THE BOSTON & MAINE has ordered three 4-8-2 type steam locomotives from the Baldwin Locomotive Works. Designed for fast freight service and costing approximately $160,000 each, the locomotives are expected to be delivered about March, 1941. The new units will have 14-wheel tenders carrying 23 tons of coal and 23,000 gal. of water.

FREIGHT CARS

NORFOLK & WESTERN is inquiring for from 500 to 1,000 55-ton gondola cars. If decision to purchase is reached contract will be awarded during the coming week.

IRON AND STEEL

CENTRAL OF NEW JERSEY.—A contract has been let to the American Bridge Company, New York, for 717 tons of structural steel, to be used in connection with the strengthening and repairing of Bridge No. 11/46, Broad Street, Elizabeth, N. J., at a cost of approximately $8,284.

PASSENGER CARS

THE PENNSYLVANIA has ordered three light-weight stainless-steel passenger coaches from the Edward G. Budd Manufacturing Company. The new cars will be operated jointly with 17 similar units ordered by the Atlantic Coast Line, as reported in the *Railway Age* of August 10, page 232.

THE SEABOARD AIR LINE, in conjunction with the PENNSYLVANIA, has ordered 18 light-weight stainless-steel passenger-train cars from the Edward G. Budd Manufacturing Company, to go into service between New York and both coasts of Florida starting in the late fall. The total is comprised of 10 luxury coaches, 2 dining-lounge cars, 3 tavern-observation and 3 passenger-baggage-dormitory cars. Inquiry for this equipment was reported in the *Railway Age* of June 8, page 1032.

SIGNALING

THE NORFOLK & WESTERN will modernize its signaling system between Portsmouth, Ohio, and Columbus, at a cost of $745,000. The project, which is a part of the road's $28,000,000 improvement program for 1940, will be undertaken in the latter part of October and is expected to be completed by July, 1941.

Installation of position-light automatic signals with coded track circuit control between the two cities will replace old semaphore type signals, which are now controlled by what is known as polarized line circuits. The power transmission line will be made three-phase between Chillicothe and Columbus, replacing the 2,200-volt, single-phase power transmission line between these points, providing sufficient additional capacity for the operation of automatic signals, interlockings, station lighting, switch lighting and electrically driven pumps at water stations.

Additional overhead ground wire on transmission pole line with latest lightning protective apparatus will be installed in order to obtain further continuity of signal operation. Automatic sub-stations will be constructed between Portsmouth and Columbus so that in case of a power outage at any one of the three sources of supply, the other station or stations will be automatically cut in in approximately five-tenths of a second, without causing any interruptions to signal operations, and therefore no delays to train movement.

Construction

CANADIAN PACIFIC.—A contract amounting to $27,910 has been awarded the Buchan Construction Company, Calgary, Alta., for the construction of an extension to the enginehouse at Alyth (a suburb of Calgary). The extension will consist of six new 120-ft. stalls, and the work will include the construction of a fan room 26 ft. 6 in. by 23 ft. in area at one end of the new stalls and considerable heating, ventilating and piping work.

CHICAGO & NORTH WESTERN.—The Department of Roads and Irrigation of the State of Nebraska has awarded a contract amounting to $81,415 to the Empire Construction Company, Omaha, Neb., for the construction of the Ak-sar-ben viaduct for Highway No. 38 over the tracks of the North Western on West Center street in Omaha. The viaduct, which also crosses Little Papillion creek, will be 285 ft. long and will consist of 6 deck girder spans, supported on concrete abutments and steel frame bents resting on concrete pedestal piers. The abutments will have spread footings bearing on the compacted approach fills and the pedestal piers will be supported by treated timber piling. The viaduct will provide a 24-ft. roadway and one 5-ft. sidewalk.

CENTRAL OF NEW JERSEY.—A contract has been given to the Linde-Griffith Construction Company, Newark, N. J., for rebuilding foundations, etc., for Bridge No. 11/46, Broad Street, Elizabeth, N. J., at a cost of approximately $6,602. The bulk of work on strengthening and repairing this bridge is being carried out by the railroad company forces at a cost of about $48,160. The contract for furnishing the structural steel has been let to the American Bridge Company.

CHICAGO & NORTH WESTERN, THE UNION PACIFIC AND THE MISSOURI PACIFIC.—A contract amounting to $72,966 has been awarded Liggett and Knapp, Lincoln, Neb., by the Department of Roads and Irrigation of the State of Nebraska, for the construction of the Hastings-Elm street viaduct 391 ft. long over the tracks of these railways on Highway No. 6 cut-off at Hastings, Neb. The viaduct will consist of 6 deck girder spans on concrete piers and abutments with spread footings and will provide a 24-ft. roadway.

GREAT NORTHERN.—A contract for 86,000 treated cross ties and 265 bridge ties, amounting to $137,984, has been awarded the National Pole & Treating Company, Minneapolis, Minn., by the Bureau of Reclamation of the Department of the Interior for the relocation of two branch lines of the Great Northern near Kettle Falls, Wash. Other contracts awarded for this work, which is being done in connection with the Grand Coulee project on the Columbia river, were announced in the *Railway Age* of June 22, page 1141, the *Railway Age* of July 6, page 51, and the *Railway Age* of August 3, page 197.

NEW YORK CENTRAL.—The New York Public Service Commission has approved a bid in the amount of $6,444 by C. J. Tarantelli of Glens Falls, for the elimination of these roads crossing with Whitebeck street in the town of Coxsackie.

UNION PACIFIC.—This road is constructing two one-story brick and concrete warehouses in Denver, Colo. The contract for one warehouse at 42nd and Brighton boulevard, 101 ft. by 140 ft., which will be leased to the Ambrose Winery and Bottling Plant, has been awarded the F. J. Kirchhof Construction Company, Denver. The interior walls, foundations, footings and floor will be constructed of reinforced concrete. The exterior walls will be brick, with steel window sash and overhead type loading doors. The roof construction will be of wood timbers supported on steel columns and beams, with wood roof sheathing and built-up roofing.

A similar warehouse 361 ft. by 193 ft. will be built for the Gamble-Skogins Company at 45th avenue and York street.

Continued on next left-hand page

Supply Trade

The Gold Car Heating & Lighting Co., which has been located at 220 36th Street, Brooklyn, N. Y., for the last 20 years, is moving its offices to 33 35th Street in the same city.

Frank R. Carlson, manager of sales of the **Chicago Railway Equipment Company,** Chicago, has been elected vice-president in charge of railroad sales.

Wallace W. Leipner has been placed in charge of sales and engineering of the enameled roofing and siding division of **Porcelain Steels, Inc.,** Cleveland, Ohio. Mr. Leipner, who is an architectural engineer, has resigned from Arthur G. McKee to accept the position. He has been associated formerly with the H. K. Ferguson Company, The Austin Company and the Hunkin Conkey Construction Company.

J. Thomas Talbot, assistant to the president of the Brake Shoe & Castings division of **The American Brake Shoe and Foundry Company,** has been promoted to vice-president in charge of eastern sales of this division and of the Southern Wheel division. After graduating

J. Thomas Talbot

from the McDonogh School, Baltimore, Md., in 1913, Mr. Talbot entered the service of the Baltimore & Ohio as a special apprentice, later serving as machinist and locomotive inspector. In May, 1917, he enlisted in the 19th Engineers (railway) and served nineteen months overseas, receiving his second lieutenant's commission. In March, 1919, he returned to the service of the B. & O. in the Cumberland, Md., shops, but resigned a year later. In June, 1920, Mr. Talbot entered the service of the American Brake Shoe and Foundry Company as inspector, with headquarters in New York, and in 1923 became sales manager, with headquarters at Norfolk, Va. In 1935, Mr. Talbot returned to the New York office and in January, 1939, was appointed assistant to the president of the Brake Shoe & Castings division.

OBITUARY

Griffith Chadwick, who retired as treasurer of the Griffin Wheel Company, Chicago, in February, 1940, died in Oak Park, Ill., on September 18, following a brief illness. He was 70 years old.

Charles A. Rowan, chairman of the board, Westinghouse Air Brake Company and the Union Switch & Signal Co., Wilmerding, Pa., died on September 13, at the age of 65, after several weeks' illness. Born in Pittsburgh, Pa., in 1874, Mr. Rowan was educated in the public schools of Pittsburgh and at Parnassus

Charles A. Rowan

Academy. He began his business career as a bookkeeper at Logan's Planing Mills, and two years later, in 1894, became a clerk in the East Pittsburgh Improvement Company. In 1902 he went with the East Pittsburgh National Bank.

In 1903 he entered the service of the Westinghouse Air Brake Company, and has since been engaged with that company as follows: assistant auditor, 1903 to 1909; acting assistant treasurer, 1909 to 1910; auditor, 1910 to 1916; comptroller, 1916 to 1919. In 1918, while comptroller, he was elected vice-president. From 1930 to 1932 he served as executive vice-president with Westinghouse, and from 1932 to 1936 was its president. During these latter years Mr. Rowan was also connected with subsidiaries of Westinghouse. In 1927 he was made president of Westinghouse International Brake & Signal Co., which position he held until the dissolution of that organization in 1936. In 1929 he was also elected a director of Westinghouse and its affiliated Union Switch & Signal Co. In 1936 Mr. Rowan was elected chairman of the boards of Westinghouse and Union Switch, in which capacities he served until his death.

TRADE PUBLICATION

LOCOMOTIVE WHEEL LOAD SCALES.—Fairbanks, Morse & Company, Chicago, Ill., has published a 16-page bulletin, ASB 710.1, describing the construction and operation of the Fairbanks plate fulcrum locomotive wheel load scales. The bulletin is attractively illustrated with photographs of scale installations at Lincoln, Neb., and Paducah, Ky., and with drawings and graphs.

Financial

ATLANTIC COAST LINE. — *Equipment Trust Certificates.*—The Interstate Commerce Commission, Division 4, has authorized this road to assume liability for $8,150,000 of two per cent equipment trust certificate, series G, to be sold at 100.3267 and accrued dividends—a 1.94 per cent basis. The issue will be sold to Drexel & Company and Lawrence M. Marks & Company at that price which was the highest of six bids received in response to invitations sent to 147 prospective purchasers. Maturities will be $815,000 on October 15 of each year 1941 to 1950, inclusive.

CANADIAN NATIONAL.—*Abandonment.*—The Board of Transport Commissioners for Canada has authorized this road to abandon its line between Joliette, Que., and Montfort junction, a distance of 32 mi. The board has indicated that authorization to abandon the line further to Lachute, Que., 19 mi. to the east, would be conditional upon an agreement between the Canadian National and the Canadian Pacific to operate trains of the former road over C. P. R. tracks between l'Epiphanie, Que., and Jacques Cartier junction.

CENTRAL OF GEORGIA.—*Compensation of Trustees and Counsel.*—Division 4 of the Interstate Commerce Commission has approved as reasonable the following salaries for the trustees and counsel for the trustees of this company under section 77 of the Bankruptcy Act: H. D. Pollard, trustee, $22,500; A. B. Lovett, trustee, $10,000; and T. M. Cunningham, counsel, $16,000.

CHICAGO & NORTH WESTERN.—*Abandonment.*—Examiner R. Romero has recommended that the Interstate Commerce Commission's Division 4 authorize this road to abandon portions of lines described in the proposed report as "extending from a point 500 ft. south of the south switch at Strawbridge, thence southerly to the end of the line at station 524 plus 89, and from Hazel Green Junction to the end of the track at Hazel Green, a total of approximately 5.2 miles, of which 4.9 miles are in LaFayette County, Wisc., and the remainder, 0.3 mile, in Jo Daviess County, Ill."

GULF, MOBILE & OHIO. — *Equipment Trust Certificates.*—This road has been authorized by the Interstate Commerce Commission, Division 4, to assume, as a general obligation, the obligations and liabilities now existing, or to accrue, of the receivers of the Mobile & Ohio in respect of $2,700,000 of M. & O. equipment trust certificates of 1940. Receivers of the M. & O., which was among the properties merged into the G. M. & O., were authorized to assume liability for the certificates involved in an I. C. C. order dated August 15.

CHESAPEAKE & OHIO.—*Purchase of Kanawha, Glen Jean & Eastern.*—The Interstate Commerce Commission, Division 4, has authorized this road to purchase for $550,000 the property and franchises of the

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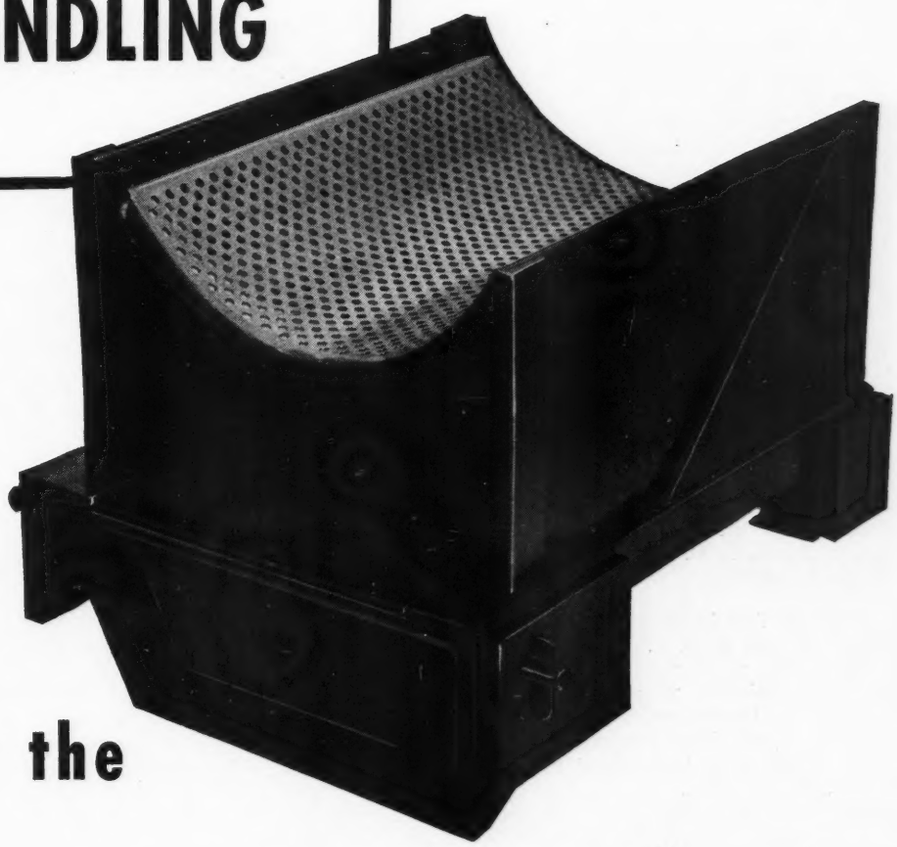
FOR EASE OF MAINTENANCE AND HANDLING



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The New reversible cellar of the Franklin No. 8 Combined Lubricator and Spreader weighs less than half of the old cast steel cellar; yet its design assures an even better lubricating job. This fabricated steel unit, in which the hub end wall is integral with the spreader, makes possible a light, open-end cellar which brings the perforated plate closer to the hub. » » » Despite the drastic reduction in weight, the fabricated steel construction effectively eliminates the possibility of the jaws of the driving box closing in and pinching the cellar. For new power or replacements, specify the Franklin No. 8 Combined Lubricator and Spreader and secure better lubrication with a minimum of weight.

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO MONTREAL

Kanawha, Glen Jean & Eastern, which operates an eight-mile line from Glen Jean, W. Va., through Sugar Creek Junction to Tamroy, and a 6.2-mile line from Sugar Creek Junction to Pax. In addition there are 12.28 miles of yard tracks and sidings leading from the main line to various coal mines and tipples; as the road serves "a large coal producing area in the so-called New River Coal District and has been an important feeder to the applicant for many years." The entire capital stock of the Kanawha is owned by the late William McKell's estate which is now being liquidated.

LINVILLE RIVER. — *Abandonment.* — This road has applied to the Interstate Commerce Commission for authority to abandon its entire line extending from Cranberry, N. C., to Boone, 31.6 miles. The application states that floods in August washed out bridges, trestles and fills, and brought slides and other obstructions to sections not washed out. Because of dwindling traffic and revenues in recent years, the directors have decided that even if the road had the $50,000 needed for rehabilitation work, the expenditure would not be justified.

NEW YORK CENTRAL.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this road and the Michigan Central, respectively, to abandon operation and abandon a section of the latter's so-called Air Line, extending from Haires, Mich., to O. D. Tower, approximately 4.1 miles.

SEABOARD AIR LINE.—*Equipment Trust Certificates and R. F. C. Financing.*—This company has asked the Interstate Commerce Commission to approve a plan whereby the Reconstruction Finance Corporation would either guarantee or purchase $1,120,000 of three per cent equipment trust certificates, maturing in 14 equal annual installments beginning November 1, 1941. The proceeds would be used to finance in part the purchase of 15 streamlined passenger cars, 50 70-ton all-steel hopper cars, and one 2,000 h.p. Diesel-electric locomotive unit, costing a total of $1,373,475. The petition states that the passenger cars will be purchased from the Edward G. Budd Manufacturing Company, the hopper cars from the Pullman-Standard Car Manufacturing Company, and the locomotive unit from the Electro-Motive Corporation.

SEABOARD AIR LINE.—*Abandonment by Chesterfield & Lancaster.*—Receivers for the Chesterfield & Lancaster (who are also the S. A. L. receivers) would be authorized to abandon the C. & L.'s entire line from Seaboard Junction, S. C., to Pageland, 31.8 miles, and to abandon operation under trackage rights over a 1.5-mile section of the S. A. L. between Seaboard Junction and Cheraw, if the Interstate Commerce Commission's Division 4 adopts the recommendations of a proposed report by Examiner A. G. Nye. While the Seaboard owns all of the C. & L. capital stock and its second-mortgage bonds, a foreclosure of an underlying mortgage has been ordered by the court. "It is not necessary in this proceeding," says the proposed report, "to determine whether the carrier is a unit of the Seaboard system or an independently-operated unit of railroad, because, regardless of status it has not been able in recent years to earn sufficient revenue to pay the costs of operation and meet its fixed charges. At the present time, it is hopelessly insolvent. The fact that the Seaboard has advanced credit liberally has merely postponed the time when a cessation of operations would become necessary."

SOUTHERN.—*Abandonment.* — This road and its lessor, the Virginia & Southwestern, have applied to the Interstate Commerce Commission for authority to abandon the latter's 46-mile line between Bluff City, Tenn., and Mountain City. The application states that recent floods brought such damage that it would require $152,800 to repair in kind and $379,625 to renew at standards which would permit the operation of heavier power and the withstanding of future floods. Meanwhile the line has not in recent years yielded sufficient revenue to pay out-of-pocket costs and expenses for maintenance in accordance with Southern branch-line standards.

SOUTHERN.—*Securities of New Orleans & Northeastern.*—The New Orleans & Northeastern has been authorized by the Interstate Commerce Commission, Division 4, to issue $1,000,000 of 4 per cent serial collateral notes, to be sold at par and accrued interest and the proceeds used to finance in part the retirement of $1,371,000 of prior-lien bonds due November 1. The same decision also authorizes an issue of $1,839,000 of refunding and improvement mortgage 4½ per cent bonds, series A, to be pledged together with another $468,000 of such bonds as collateral security for the notes. After inviting competitive bids on the notes, the applicant will sell them at par as follows: $350,000 to the Southern; $325,000 to the Alabama Great Southern; and $325,000 to the Cincinnati, New Orleans & Texas Pacific.

SOUTHERN PACIFIC. — *Abandonment.* — The Interstate Commerce Commission, Division 4, has authorized the Pacific Electric to abandon 88.1 miles of its Los Angeles, Calif., suburban lines, and to abandon operation over another such line—the 8.47-mile Rialto-Riverside line, which is owned by the Union Pacific, but which has been operated by the Pacific Electric under trackage rights since 1915. The Division's majority, consisting of Commissioners Mahaffie and Johnson, rejected pleas of the Railway Labor Executives' Association and the Brotherhood of Railroad Trainmen for "labor-protection" conditions; and on that point Commissioner Porter dissented. He has long been of the opinion that the commission has "ample power to attach reasonable conditions for the protection of employees in abandonment cases, such as this one." And Mr. Porter believes "we should do so here." Meanwhile in rejecting labor's plea the majority had relied upon recent commission decisions holding that the imposition of "labor-protection" conditions in abandonment cases is outside the commission's authority. The latest case cited was Tonopah & T. R. Co. Abandonment, decided May 13, 1940, 240, I. C. C. 145.

The decision explains that the abandonment application was a result of Pacific Electric's general program of rearranging its passenger services. Such rearrangement involves "abandonment of certain rail lines and substitution of motor coach transportation as a means of increasing operating revenues, reducing expenses, and rendering a more adequate service to the public." The sixteen lines involved are described generally as segments on which operations have been conducted "between Los Angeles and adjoining areas handling passenger traffic almost exclusively, and serving principally a densely populated territory largely residential in character." In most cases "segments are closely paralleled by main highways and intersected by numerous secondary routes and city streets." Evidence on savings indicated that the rearrangement was expected to bring economies totaling $378,229 a year, of which $301,996 would be a saving in labor costs. In the latter connection, the applicant stated that an effort would be made to assign the employees to other departments whenever possible.

TENNESSEE CENTRAL.—*Securities.*—This road has been authorized by the Interstate Commerce Commission, Division 4, to issue $200,000 of its first mortgage 4 per cent bonds, series A, to be pledged and re-pledged as collateral for a short-term note or notes. The purpose of the transaction is to partially reimburse the applicant's treasury for expenditures on additions and betterments.

TRENTON-PRINCETON TRACTION.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this electric road to abandon its entire line extending from Trenton, N. J., to Princeton, 12.6 miles; and 0.6 mile of additional track in Trenton.

UNION PACIFIC.—*Trackage Rights and Construction.*—This road and its affiliate, the Los Angeles & Salt Lake, have been authorized by the Interstate Commerce Commission, Division 4, to enter trackage-rights agreements and construct a set-out track which will enable the U. P. to render direct service at the plant of the Utah-Idaho Sugar Company at Spanish Fork, Utah. The trackage rights will be over a one-mile line owned by the Sugar Company, 0.4 mile of the Denver & Rio Grande Western's Tintic branch, 1.6 miles of D. & R. G. W. sidings and industrial tracks, and 0.5 mile of the Salt Lake & Utah. The set-out track will be 1,980 feet long, near Spanish Fork.

Dividends Declared

Joliet & Chicago.—$1.75, quarterly, payable October 7 to holders of record September 25.

Mahoning Coal.—$7.50, payable October 1 to holders of record September 20.

Southern (M. & O. certificates).—$2.00, semi-annually, payable October 1 to holders of record September 16.

Wheeling & Lake Erie.—$1.00, payable October 1 to holders of record September 25.

Average Prices of Stocks and Bonds

	Sept. 17	Last week	Last year
Average price of 20 representative railway stocks..	29.70	29.27	32.98
Average price of 20 representative railway bonds..	59.16	58.63	59.26

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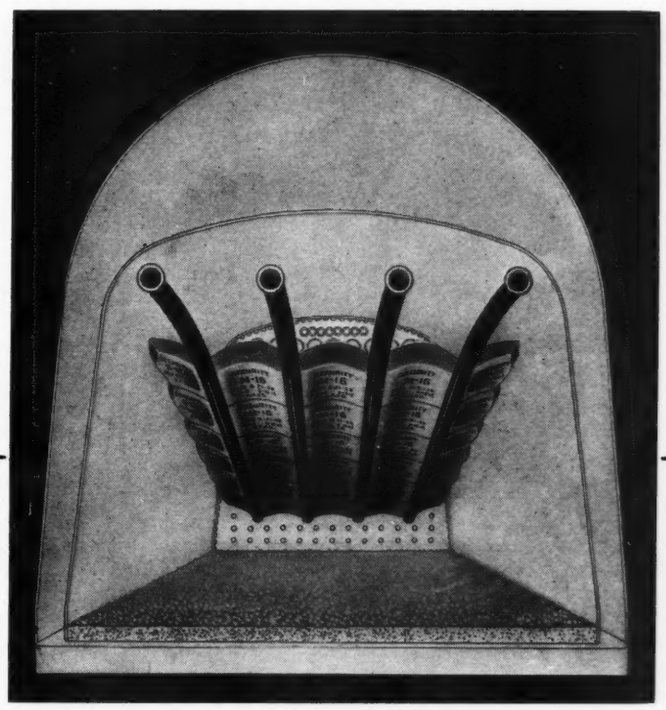

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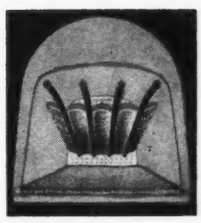

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Railway Officers

EXECUTIVES

Manuel S. Mayagoitia, representative of the National Railways of Mexico on the Federal Committee of Conciliation and Arbitration, has been appointed general manager and president of the Workers Board of Directors.

M. C. LaBertew, superintendent of the Spokane, Portland & Seattle, has been promoted to vice-president and general manager, with headquarters as before at Portland, Ore., and **R. A. McCandless,** general manager, with headquarters at Seattle, Wash., will continue as general manager of the Great Northern, lines west. Heretofore the general managership of the S. P. & S. has alternated between **W. C. Sloan,** assistant vice-president and general manager of the Northern Pacific, lines west, at Seattle, and Mr. McCandless.

Livingstone Edward Smith, vice-president and general manager of the Tennessee Railroad, with headquarters at Oneida, Tenn., retired on September 15. Mr. Smith was born at Pine Hill, Wis., and entered railway service with the Lake Shore & Michigan Southern (now part of the New York Central) as a telegraph operator. He later served as an operator on the Baltimore & Ohio and the Chicago & Alton (now the Alton) and was promoted on the latter road to agent and chief clerk to the superintendent and trainmaster at Roodhouse, Ill. He also served as chief clerk to the superintendent on the Illinois Central at Centralia, Ill.; Chicago; Clinton, Ill., and Freeport, Ill.; chief clerk to the general superintendent and assistant to the general manager on the Southern at Greensboro, N. C., and Cincinnati, Ohio; and as assistant to the general superintendent on the Missouri Pacific at Little Rock, Ark. In January, 1923, Mr. Smith was appointed general manager of the Tennessee, with headquarters at Oneida, and in March, 1936, he was elected also a vice-president.

FINANCIAL, LEGAL AND ACCOUNTING

J. C. McKalip, general auditor of the Bessemer & Lake Erie, with headquarters at Pittsburgh, Pa., has retired at his own request after more than 53 years of continuous railroad service.

OPERATING

Sam A. Blair, auditor of the Tennessee Railroad, has been promoted to general manager, with headquarters as before at Oneida, Tenn., succeeding to the duties of **Livingstone Edward Smith,** vice-president and general manager, whose retirement on September 15 is announced elsewhere in these columns.

John L. Downs, whose retirement on September 1, as superintendent of the Illinois division of the Illinois Central, with headquarters at Champaign, Ill., was announced in the *Railway Age* of August 31, was born at Greencastle, Ind., on August 20, 1870, and entered the service of the Illinois Central on August 1, 1896, as a section foreman at Kankakee, Ill. On March 1, 1897, he was promoted to track supervisor at Pana, Ill., and later served in that capacity at Kankakee and Rantoul, Ill. On April 1, 1902, he was promoted to roadmaster at Fort Dodge, Iowa, and two years later he was transferred to Vicksburg, Miss. On September 1, 1911, he was transferred to Memphis, Tenn., and eight years later he was transferred to Champaign. Mr. Downs was advanced to district engineer of the Northern lines, with headquarters at Chicago, on February 1, 1925, and on October 1, 1929, he was promoted to superintendent of the Illinois division, with headquarters at Champaign, the position he held until his retirement.

Eric Bertram Herdman, whose promotion to superintendent on the Chicago, Rock Island & Pacific, with headquarters at Dalhart, Tex., was announced in the *Railway Age* of September 7, was born in Birmingham, England, on May 20, 1897, and attended King Edward's school at Birmingham and Birmingham University. In May, 1916, he entered railway service as a brakeman on the Cleveland, Cincinnati, Chicago & St. Louis (Big Four) at Bellefontaine, Ohio. In April, 1918, he went with the Atchison, Topeka & Santa Fe as a brakeman at Wellington, Kan., later becoming a brakeman and switchman at Slaton, Tex. On June 1, 1920, Mr. Herdman went with the Southern Pacific as assistant yardmaster at Colton, Cal., later serving as general yardmaster at Calexico, Cal., and at Colton, and assistant trainmaster at El Centro, Cal. In October, 1923, he went with the Union Pacific as assistant yardmaster at Rawlins, Wyo., and on March 1, 1924, he was promoted to assistant general yardmaster at North Platte, Neb., and later to general yardmaster at North Platte. From October, 1935, to December 1, 1937, Mr. Herdman served as general yardmaster at Salina, Kan., traveling conductor at Omaha, Neb., and trainmaster at North Platte. On the latter date, he went with the Rock Island as trainmaster at Rock Island, Ill. On September 1, 1939, he was promoted to assistant superintendent at Minneapolis, Minn., where he was located until his recent promotion, which was effective September 1.

Eric Bertram Herdman

W. D. Pearce, superintendent of the Yellowstone division of the Northern Pacific, with headquarters at Glendive, Mont., has been appointed superintendent of the Spokane, Portland & Seattle, with headquarters at Portland, Ore., succeeding **M. C. La Bertew,** whose promotion to vice-president and general manager of the S. P. & S. is announced elsewhere in these columns. **C. T. Sponsel,** assistant superintendent of the Lake Superior division of the Northern Pacific at Duluth, Minn., has been promoted to superintendent, with headquarters at Glendive, replacing Mr. Pearce, and **C. W. Coil,** trainmaster at Minneapolis, Minn., has been promoted to assistant superintendent at Duluth, relieving Mr. Sponsel. **C. C. Price,** trainmaster at Fargo, N. D., has been transferred to Minneapolis, succeeding Mr. Coil, and **D. A. Thomson,** trainmaster-roadmaster of the Minnesota & International, with headquarters at Bemidji, Minn., has been appointed trainmaster on the Northern Pacific at Fargo, replacing Mr. Price. **R. W. Davis,** division roadmaster on the Northern Pacific at Minneapolis, has been promoted to trainmaster-roadmaster of the M. & I. at Bemidji, relieving Mr. Thomson.

ENGINEERING AND SIGNALING

John W. Porter, principal assistant engineer and right of way agent of the Western region of the Canadian National, with headquarters at Winnipeg, Man., has been promoted to chief engineer of the Western region, with the same headquarters, succeeding **E. M. M. Hill,** whose death on August 14 is announced elsewhere in these columns. A biographical sketch and photograph of Mr. Porter were published in the *Railway Age* of April 13, pages 693 and 694, following his promotion to principal assistant engineer and right of way agent of the Western region.

E. R. Shultz, supervisor of track on the Pennsylvania at Lancaster, Pa., has been promoted to division engineer of the Columbus division, with headquarters at Columbus, Ohio, succeeding **A. J. Greenough,** who has been transferred to the Pittsburgh division, with headquarters at Pittsburgh, Pa., replacing **C. F. Trowbridge.** Mr. Trowbridge has been appointed division engineer on special duty in the office of the chief of freight transportation at Philadelphia, Pa. **F. M. Hawthorne,** division engineer at Cleveland, Ohio, has been appointed division engineer on special duty in the office of the chief engineer of maintenance of way of the Eastern region, with headquarters at Philadelphia, and **E. E. Kinzel,** supervisor of track at Washington, D. C., has been promoted to division engineer, with headquarters at Cleveland, relieving Mr. Hawthorne.

Charles R. Wright, whose promotion to assistant chief engineer of the New York, Chicago & St. Louis (Nickel Plate), with headquarters at Cleveland, Ohio, was

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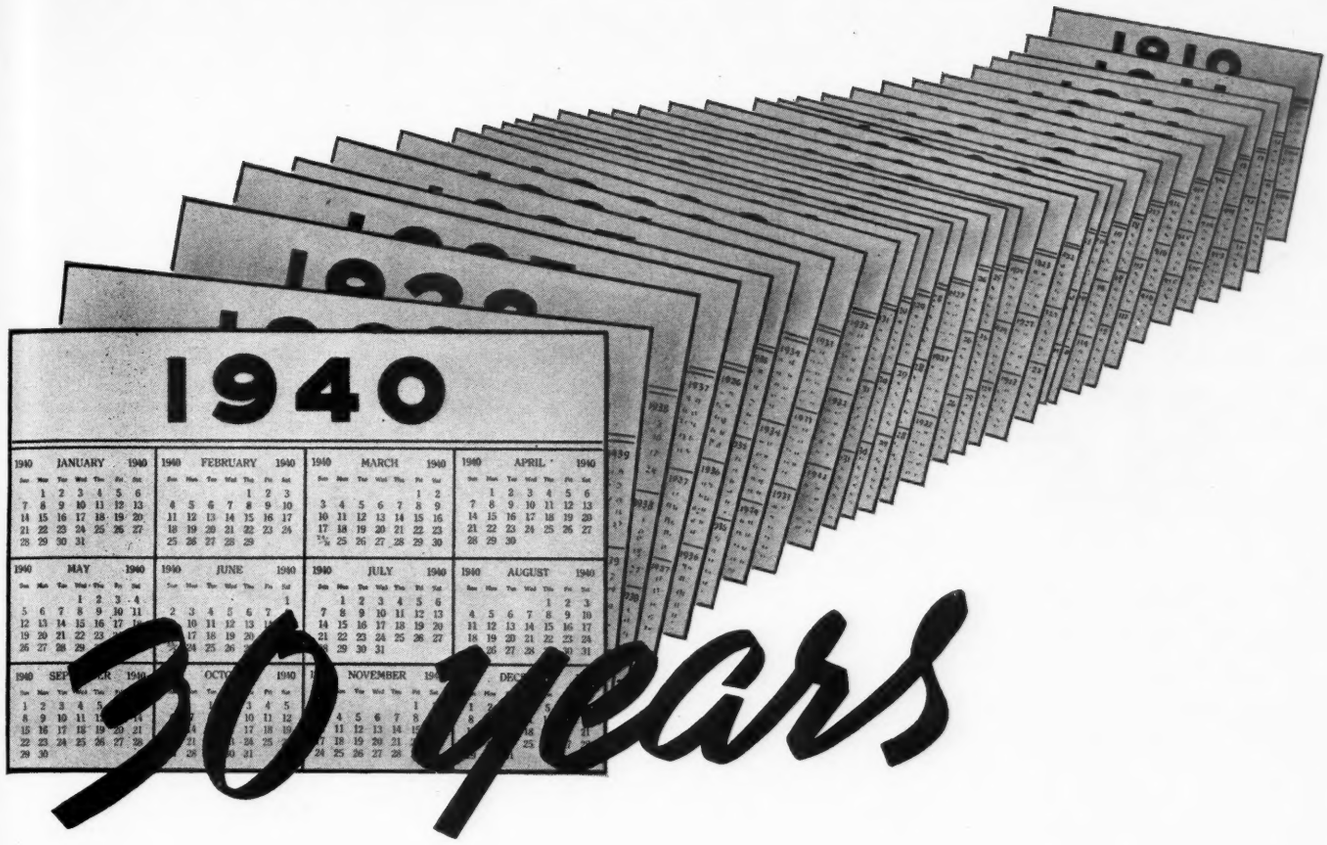

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announced in the *Railway Age* of September 14, was born at Ravenna, Ohio, on June 10, 1885, and attended college for two

Charles R. Wright

years. He entered railway service on April 16, 1906, as a draftsman in the general office of the Nickel Plate at Cleveland. In 1910, he was promoted to chief draftsman and in September, 1919, he was appointed division engineer at Conneaut, Ohio. Mr. Wright was transferred to Cleveland in July, 1920, and in June, 1925, he was advanced to district engineer of the Lake Erie & Western district, with headquarters at Indianapolis, Ind. In January, 1931, he was transferred to Frankfort, Ind., where he was located until his recent promotion, which was effective September 1.

MECHANICAL

W. Joseph Crabbs has been appointed mechanical engineer of the Western Maryland, with headquarters at Hagerstown, Md., succeeding his father, **William J.**

W. Joseph Crabbs

Crabbs, deceased. The newly-appointed mechanical engineer was born on September 5, 1912, at Hagerstown and was graduated from Virginia Polytechnic Institute, Blacksburg, Va., with a B. S. degree in 1934. He entered railroad service during the summer of 1927 with the Western Maryland and served during subsequent summers until 1933 as special apprentice with that road. From June, 1934, to August, 1935, Mr. Crabbs served as special apprentice with the American Locomotive Company at Schenectady, N. Y. On August 1, 1935, he became draftsman for the Western Maryland and on March 8, 1938, he was promoted to chief draftsman, the position he held until his recent appointment.

Otto C. Gruenberg, of the American Locomotive Company, has been appointed superintendent motive power of the New York, Ontario & Western and the New York, Susquehanna & Western.

S. G. Mattice, traveling fireman on the Canadian National at Saskatoon, Sask., has been promoted to master mechanic at that point succeeding **G. H. Warning,** who has been transferred to Regina, Sask. Mr. Warning replaces **J. E. Mitchell,** who has retired.

OBITUARY

R. J. Foreman, general freight traffic manager of the Canadian National, with headquarters at Montreal, died on September 17 in that city.

Clayton M. Williams, former superintendent of the Cleveland division of the New York Central, died on September 5. He had been retired since March, 1938.

George W. Callen, general agent, freight department, for the Wabash at Milwaukee, Wis., died suddenly at his home in that city on September 2.

Charles W. Groves, vice-president of the Hooppole, Yorktown & Tampico, with headquarters at Hooppole, Ill., died at his home in that city on September 12, at the age of 71 years.

Edmund Taylor Lukens, former real estate and tax agent for the Delaware, Lackawanna & Western, died on September 16 in Crozer Hospital, Chester, Pa., at the age of 91 years. Mr. Lukens retired on March 1, 1933.

E. M. M. Hill, chief engineer of the Western region of the Canadian National, with headquarters at Winnipeg, Man., died in that city on August 14. A biographical sketch and photograph of Mr. Hill were published in the *Railway Age* of February 24, pages 390 and 391, following his promotion to chief engineer of the Western region.

Newton A. Williams, who retired on June 16 as vice-president of operations of the Union Pacific, with headquarters at Omaha, Neb., died at his home in that city on September 17. Mr. Williams had been ill for several months. A photograph and biographical sketch of his career were published in the *Railway Age* of June 22, pages 1142 and 1143, following his retirement.

William J. Crabbs, mechanical engineer of the Western Maryland, with headquarters at Hagerstown, Md., died suddenly on August 13 from a heart attack, at the age of 61. Mr. Crabbs was born in Carroll County, Md., on June 12, 1879, and was graduated in mechanical drawing from the Maryland Institute for the Promotion of Mechanical Arts in 1905. He taught school from 1897 to 1902 and entered railroad service on May 22, 1902, as machinist apprentice on the Western Maryland, serving in that capacity until 1905, when he became draftsman. From 1907 to 1916, he was chief draftsman and from 1916 to 1917, motive power clerk. Mr. Crabbs was appointed mechanical engineer in 1918, the position he held until his death. He was a member of the Mechanical Division of the Association of American Railroads.

Robert Faries, assistant chief engineer of the Pennsylvania in charge of maintenance of roadway and track, whose death on September 8 was reported in the *Railway Age* of September 14, was born on November 30, 1881, at Bellwood, Pa. Mr. Faries received his education in the grade

Robert Faries

and high schools of that city and the Altoona High School. He entered railroad service with the Pennsylvania on the Pittsburgh division on May 5, 1899, as a laborer in the maintenance of way department at Gallitzin, Pa. Within a few months he was promoted to rodman, and after several years' experience in that capacity he was placed in charge of the engineering work involved in the construction of the terminal yard and facilities at Pittsburgh. After serving as transitman and assistant supervisor on various divisions, Mr. Faries was appointed supervisor of track on August 1, 1905, serving in this capacity at Jamesburg, N. J., Trenton, Washington, D. C. and Baltimore. From June 1, 1917, to February 1, 1918, Mr. Faries served as division engineer successively at Elmira, N. Y., Williamsport, Pa., and Pittsburgh. On November 1, 1924, he was transferred to the operating department as superintendent at Buffalo, N. Y. In 1928, he was promoted to assistant chief engineer-maintenance with headquarters at Philadelphia. For many years Mr. Faries had been active in the affairs of the American Railway Engineering Association. At the time of his death he was serving as a member of the Board of Direction and as vice-chairman of the Committee on Rail. Also, he had recently been appointed chairman of the Committee on the Relations of Track and Equipment of the Association of American Railroads.